Aspects of information literacy with regards to the use of legal resources: case study of third year undergraduate law students of the University of Cape Town, South Africa and University of Jos, Nigeria

A major dissertation in fulfilment of the requirements for the award of the degree of Master of Philosophy (M.Phil.) in Library and Information Studies

By

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PLAGIARISM DECLARATION

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

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DEDICATION

*The Lord be glorified for He alone is my help...**EBENEZER***!

ABSTRACT

The study explores the relevance of information literacy in the context of legal education specifically as it affects issues on the conduct of the legal research skills of undergraduate students as well as the need for its integration into the curriculum of legal education. A review of the literature shows that little research has been undertaken in the field of legal information literacy in contrast to many other academic areas; indications from the literature reveal that there is a skills deficiency among undergraduate law students in many countries which suggest that many are ill prepared for the workplace. This situation also applies to law undergraduates in higher education institutions in Africa particularly Nigeria. The peculiar structure of legal information resources and the distinctive ways in which legal information is both evaluated and used suggest that legal information resources possess special characteristics that would need to be examined carefully in order to design information literacy programmes suitable for the profession.

The scope of the study is limited to a comparative analysis of the information literacy skills of undergraduate law students of the University of Cape Town, South Africa and University of Jos, Nigeria; data was collected from both institutions from which comparisons were drawn. Findings from the study have revealed the difficulties experienced by students in the process of legal research and emphasised the importance of recognising the unique information structure of legal resources in developing an appropriate pedagogical model for integrating information literacy to the curricula of legal education particularly in higher education institutions. The study presents a uniquely African perspective on the challenges of integrating information literacy within the curriculum of legal education by providing insights into the needs and challenges for graduate requirement and productivity in higher education institutions in Africa.

LIST OF ABBREVIATIONS

AAHE	American Association of Higher Education
ACRL	Association of College and Research Libraries
ALA	American Library Association
ALIA	Australian Library and Information Association
ANZIIL	Australian and New Zealand Institute of Information Literacy
ARLU	Academic Literacy Research Unit
ASLA	Australian School Library Association
ASSU	Association of Senior Staff Union of Nigeria
CALR	Computer Assisted Legal research
CHE	Centre for Higher Education
CILIP	Charted Institute of Library and Information Professionals
CITL	Committee on Information Technology Literacy
EIS	Electronic Information Systems
ICL	Information literacy and Computer Literacy
ICT	Information and Communication Technology
JISC	Joint Information Systems Committee
LOEX	Library Orientation Exchange
MEG	Development Multimedia Education Group
NAPSS	National Association of Secondary School Principals
NCLIS	National Commission for Library and Information Science
ODLIS	Online Dictionary of Library and Information Science
OPAC	Online Public Access Catalogue
OU	Open University
SCONUL	Standing Conference of National and University Libraries
UCT	University of Cape Town
UJ	University of Jos
UNISA	University of South Africa
UWC	University of the Western Cape
WGLIT	Working Group on Libraries and Information Technologies

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CHAPTER 0
INTRODUCTION

Research into the form and composition of legal information has shown that a symbiotic relationship exists between the structure of legal information and the information seeking behaviour of legal practitioners. Legal information is central to its substantive content and method of analysis (Danner 2007: 224); the categorization and organization of its structure is reflective of how it is taught and understood by the user and enables the contextualization of a legal issue within a conceptual framework for the purpose of addressing a case at hand. In the past few years, a change in the format of legal information occasioned by the advent of Information and Communication Technology (ICT) and the use of electronic search tools has re-organized what used to be the boundaries that constitute the legal information universe, consequently, this has affected the information seeking patterns of legal practitioners with regards to the skills required to undertake effective research and increased the need for enhanced information-seeking skills.

Significance of the study

A perusal of the literature indicates that little in-depth research has been undertaken with a view to establishing the importance of information literacy with respect to the use of legal materials, and specifically as it relates to the curriculum of higher education institutions in Africa; this study aims to investigate the value of information literacy to the conduct of legal research as well as the need for its integration into the curriculum of legal education. It is anticipated that an empirical research of this nature is required for providing useful comparative insights into the concept of legal information literacy that will facilitate the establishment of an acceptable framework for developing a model programme of information literacy in the curriculum of legal education in Africa.

Order of presentation

Chapter one provides a context and framework of the dissertation, a statement of the research problem and the research questions. It also examines the peculiarities of legal information, their hierarchical arrangement and how they can be employed in the conduct of research. Chapters two, three and four explore related literature relevant to the study by way of contextualizing the concept of legal information literacy in relation to undergraduate education and legal research. Chapter five outlines the research methodology in detail while chapter six analyzes data collected and the interpretation. Summary of research findings and recommendations are presented in chapter seven.

CHAPTER ONE
THE STRUCTURE OF LEGAL INFORMATION RESOURCES

1.1 Statement of the research problem

The structural domain of legal information is one that is faced with on-going additions to statutes and legislations; concerns have therefore arisen among librarians, academics and practicing lawyers as to the importance of integrating information literacy to the curriculum of legal education in order to facilitate the techniques of legal research. Recent findings undertaken by some researchers to evaluate the information-seeking patterns of law students have revealed a general decline in their attitude to research. Kerins, Madden and Fulton (2004: Law students), in their studies on the information-seeking patterns of engineering and law students noted specifically that law students tended to have problems identifying suitable information sources for case law, legislation and journal articles. This problem, it is believed, lies in the formal legal education where it is rare for students to carry out independent research or to be taught how to conduct it (Tunkel, 1997: 59).

Within the legal workplace also, research has shown that even though considerable attention has been given to studies that focus on teaching information literacy skills and the acquisition of generic attributes, not much has been documented on studies that relate to information literacy within the corporate environment (Oman, 2001:32). Macoustra, (2004: 131), in a study to examine the state of information literacy skills of legal practitioners in law firms, found that most graduate lawyers seem to lack the creative skills in developing a strategy to solve complex cases. Similarly, anecdotal evidence from interviews conducted by the researcher among some high court judges in Nigeria also revealed that there appears to be a disconnection between the curriculum of legal education and current legal practice. Recognising that the workplace environment is more complex and that concurrent changes in information technology require that employees are conditioned to be more flexible and proficient lifelong learners, the relevance of information literacy has become more compelling. In addition, this view has embraced the need for information handling skills to be

reflected in the legal workplace as an important component of workplace productivity. It is the aim of this study therefore to investigate and discuss issues relating to legal information literacy as it affects undergraduate law students with a view to identifying major gaps in their research skills as well as determine the extent of transferability of acquired skills from the educational domain to the corporate environment. It is considered that this aim is in the longer term for which the current thesis contributes.

1.2 Information literacy: Definition of the concept

Information literacy can be variously understood as a skill, a tool or even an educational movement, its models are implicitly tied to learning theories and outcomes are indicative of the centrality of the user to the learning process. According to the Association of College and Research Libraries (ACRL) document on "Information Literacy Competency Standards for Higher Education 2000" the qualities of the information literate person include the ability to:

- Determine when information is needed.
- Access the needed information effectively and efficiently.
- Incorporate selected information into one's knowledge base.
- Use information effectively to accomplish a specific purpose.
- Understand the economic, legal and social issues surrounding the use of information and access and use information ethically and legally.

These qualities are particularly cogent principles that are useful for research libraries and appropriate as a conceptual framework for learning communities especially with regards to assessment of performance and measurement of specific outcomes. The discipline of law as a subject is a highly structured field of information, the concept of information literacy and its approach to legal research aims to identify problems of skills deficiency in formal legal education and to address issues of the phenomenon of lifelong learning by providing skills that enable users to manipulate, evaluate, analyze, and determine the accuracy and quality of accessed information resources. In adopting the ACRL Information Literacy Competency Standards for this study, it is hoped that the framework will help to demonstrate how standards can be applied to obtain expected outcomes specifically in the field of legal information literacy.

1.3 Research questions

The challenge to prepare students for their role in the knowledge economy is reflective of the efforts towards the promotion of lifelong learning and other developmental goals. This research aims to analyze the current state of legal education with respect to information literacy and its application to legal research specifically among undergraduate law students. Based on a survey of the literature, the research questions that underpin this study will focus on the examination of the following issues:

- Does the structure of legal information provide special problems for the retrieval of information?
- How can the level of students' awareness in accessing and retrieving legal resources be evaluated?
- How are they able to use accessed information for problem solving?
- What is the perception of students of the importance of information literacy?

1.4 Legal information resources

As in other subject fields, legal information has also been profoundly influenced by the concept of information explosion. The vast availability of legal materials especially periodical reviews and other formats (print/electronic) has highlighted the need for the bibliographic control of the legal literature; juxtaposed against the increasing availability of web resources and search engines, the bibliographic control of legal information has served to enrich accessibility to electronic records in the legal field, a quest which draws upon the traditional role of the librarian in organizing these resources for easy access. Information explosion has today created the need for the ability to critically assess and evaluate a myriad of related resources, it is this necessity that has placed the concept of information literacy at the centre of global discourse especially in higher education institutions where encouraging an attitude of critical approach to information searching and utilization is necessary for providing lifelong and self-directed learning. Currently, concerns in information literacy are

directed towards issues of research and skills acquisition in discipline-related fields (Mittermeyer 2005:206) and in the legal profession, information literacy provides a model through which essential skills training can be embedded into the teaching of law (Davies & Jackson 2005).

1.4.1 The structure of legal information

A fundamental difference in the bibliographic organization of legal materials is the distinction between primary and secondary sources/authorities (Jacobstein, Mersky & Dunn 1994: 10), using these sources has often presented a major challenge to the researcher in terms of understanding the complex system in which they are variously organized in an area of law. An essential step however, is to develop an awareness of the types and relationship of these sources in the application of law (University of Maryland, Marshall Thurgood law library, 2007).

- Primary authorities: Primary sources are those sources from which law and legal principles originate and are to be found; they contain information produced by governmental agencies, institutions or organizations. They include documents such as legislations, opinions and decisions of courts. Opinions contained in Primary sources are considered binding or mandatory.

- Secondary authorities are descriptions of or commentaries on the law; they explain the meaning and applicability of Primary authorities in law. They enable the researcher to obtain a general overview of a case.

- Tertiary sources are a compilation of primary and secondary sources presented in a convenient form; they are basically search/finding tools in the form of reference materials which facilitate easy location or provide updates to relevant information. Examples include indexes to legal periodicals and books, citation indexes, case digests, legal encyclopedias and dictionaries and so on.

1.5 Types of legal resources

Legal resources can be found in different forms, however for the purpose of this study, they are categorized into two main forms i.e. print and electronic formats.

1.5.1 Print resources

Scholarly publications in legal information have dominantly been in print format which has continued to provide access to a collection of resources to users and according to Wu (2005: 235), print formats as compared to electronic resources, are more enduring in terms of reliability and preservation. Hanson, (2002: 564), notes that print-based legal research fosters a view of law as a self-contained system of facts and doctrines hierarchically organized under general principles. Some examples of print resources include the following:

- Digests: Digests are arranged by a topic and key number system which divides the law into 400 broad topics and expands as new areas are developed in law. Bast and Pyle, while outlining the advantages of the digest as a comprehensive case finding tool, noted also that inaccuracies and mistakes contained in some digests in terms of classification summary made of a case can be misleading to the user, hence the need to be meticulous in its organization (Bast & Pyle, 2001:294). Examples of digests include *Juta's Digest of South African law.*

- Tables of Cases are alphabetically arranged lists of titles of cases either by name of plaintiff or defendant; they are mostly indexes to books, periodicals, treatises, encyclopedias and digests. Cases listed are mainly those discussed in individual case comments; law students usually find such comments useful in aiding their understanding of case law. Examples include *South African tax cases reports.*

- Tables of Abbreviations: These are made up of alphabetically arranged abbreviations or short forms of legal terms referred to in law books. The student can use it to find incomplete abbreviations and locate other cases in the library.

- Indexes: An index as defined by Cleveland & Cleveland (1990:125) is a list of bibliographic information or citation to a body of literature usually arranged in alphabetical order based on some specified datum such as author, subject or keyword. Indexes serve as guides to the intellectual content of information resources; they employ tags or descriptors which earmark the source of the information required by the user. The type or form of an index is determined by its structural arrangement; usually, they are either alphabetical or classified or a combination of both. Alphabetically arranged indexes are based on the orderly principles of the alphabet by which entries such as subject headings, main headings, cross-references and other qualifying terms are all arranged in alphabetical order. Classified indexes are arranged in a hierarchy of related topics starting from the general to the specific. However, the assumption that users are accustomed to the alphabetical/logical arrangement of knowledge in no way simplifies the techniques of using an index; this is because for users to successfully locate documents from a subject index, it is necessary to be able to match the word with the topic of interest. However, different words can be used to refer to the same topic, for example, a major drawback experienced with alphabetically arranged indexes is the problems of synonymity and scattering of entries, similarly using a classified index might require a two-step procedure of first searching through an alphabetical list to identify the right position in a classified list (Ahlstrom, 2005:1439). Essentially, the value of an index lies in its structural organization and layout as a primary factor in facilitating user information retrieval (Mulvany, 1994:183). Examples of indexes include *Butterworths consolidated index and noter-up to South African law reports* and *All Nigerian law reports*.

1.5.2 Electronic resources

Legal information has, within the dawn of the 20th century witnessed a massive increase to the contents of its literature. The peculiar nature of the discipline in which precedence forms an important basis for the analogy of cases, resulted in the

increasing rate of publication of legal literature in various formats, especially electronic formats. The proliferation of legal electronic resources in the form of online databases, CD ROM databases and the Internet has completely transformed the landscape of legal research requiring more specialized skills on the part of the user for information retrieval (Hanson, 2002: 563). The technological capacity of these resources to store, process and provide access to a wide range of full-text legal information has increased their popularity among legal researchers and aroused a lot of debate among legal academics and law librarians alike as to the advantages and/or disadvantages of print and electronic resources. Electronic resources in legal information are available in different formats, each distinguishable by the search methods which they employ. Their versatility is often judged in terms of speed of access, processing power and content, examples include:

- The Internet: The internet as a channel that provides access to information and services such as search engines, are made up of portals or indexes which serve as gateways to its sources organized as tools to assist the user (Chandler, 2006:271). Search engines operate by gathering information from different websites in the form of web pages which are then compiled into an index from which the user can access. The exponential increase of resources on the internet makes indexing methods the task of the information professional; automated indexing tools and search guides help to update increasing additions to the internet, however, the inability of the computer to comprehend "natural language" represents a gap in its capability to analyze text and will for the immediate future, require the expertise of the information scientist to provide some form of editorial and bibliographic control (Hubbard, 1999: 8).

- CD ROM databases are compact discs made up of bytes which contain data accessible by computers. They are considered one of the standard mediums for distributing large quantities of information in convenient forms. CD ROM databases in the legal field include Westlaw, Lexis Nexis, Find Law, Hein online, and a host of others. Westlaw and Lexis are the most popular and provide full-text access to legal information in statutes, case law, and law reviews. They operate by Boolean search methods by which the user is able to

access information through a keyword search (Bast & Pyle, 2001: 294). Documents in Westlaw and Lexis are logically divided into segments or fields which can be individually and independently searched, known as "field or segment searching" (Borlase, 1999: introduction). Comparatively, Lexis contains more search fields than Westlaw which helps to provide greater precision to document retrieval: however, search processes and techniques of both databases are more or less the same. It is worth noting however, that CD ROM databases are swiftly being replaced by on-line, web-based access specific examples of which include Westlaw and LexisNexis. Also, the emergence of "open access" law resources some of which are freely available from institutional repositories and subject-based repositories have been a contributive factor to these changes.

- Web databases are an electronic filing system that organizes information in a way that enables a computer program to quickly select the desired pieces of data; they are organized by fields, records and files. A central feature of web databases is that they have programmatic interfaces which can be defined and managed for data i.e. Hypertext Mark-up Language (HTML), Extensible Mark-up Language (XML) or text files. Subject specific databases are a collection of databases and informational sites arranged by subjects that have been assembled, reviewed, evaluated and recommended by specialist, usually librarians. They are meant to support research and reference needs in identifying and pointing to recommended academically oriented pages on the web. Subscription databases including full text of South African cases are available from Juta Law and Laws of the Federation of Nigeria.

The application of these resources to legal research has not only been significant in the resultant explosion of the legal literature but has also popularized the concept of Computer Assisted Legal Research (CALR) which is reputed to have re-shaped print methods of legal research (MacEllven & MacGuire, 1998:175).

1.6 Definitions of terms - legal research, legal resources, information literacy.

Legal research

Legal research as defined by Frederick C. Hicks (1942: 23) is the inquiry and investigation necessary to be made by legislators, judges, lawyers and legal writers in the performance of their functions; whether done in books or computer databases legal research as performed by the lawyer is essentially library research which would usually involve diligent and continued search for the facts relevant to a legal controversy or a legal question. By this definition, it is suggested that legal research is the mandatory responsibility of the lawyer for the purpose of providing competent representation (Jacobstein, Mersky & Dunn 1994:14).

Legal resources

Legal resources contain information about the law and its processes. They consist of both primary and secondary sources.

Information literacy as defined by Hepworth (2000:32) is -

> "A concept covering thinking processes, interpersonal skills, the use of tools and learning of norms and methods associated with interaction with and the creation of data, information and knowledge"

Applying the concept of "use" to these terms suggests the importance of the ability to evaluate, manipulate and analyse accessed information; it also emphases the need to develop competent skills for problem solving. Using legal resource is like every other form of research the difference however lies in the peculiarities of the information in law as a discipline in terms of the volume, content and context which ultimately requires a skillful approach by the researcher in the ability to locate a variety of primary and secondary sources and to evaluate its relevance and applicability to the required task. Researching problems in law involves finding cases, statutes and other classes of materials, search tools are an important aid in the preliminary processes of legal research and the ability of the researcher to apply the use of these tools effectively is an invaluable resource in research technique.

Information literacy assumes great importance in the study of law because law depends on precedent and meaning. Therefore, the skills of comprehension and analysis need development and refinement throughout a professional legal career. The purpose of this study therefore is to focus upon particular problems with the sources of law rather than the fuller nature of legal research. For the purpose of analysis, it will be necessary to examine the nature and complexity of legal reference materials in order to evaluate some of the difficulties experienced by the student or legal researcher and to understand the perception of the problem that affects the interpretation of these sources with regards to information literacy.

1.6.1 Indexes as reference tools in legal research

Legal research involves a continuous process of finding cases, statutes and classes of materials applicable to a given fact or subject. The legal information literature constitutes a substantial amount of primary and secondary sources which necessitates the use of search tools for easy retrieval and quite a number of such tools are published for this purpose. Like other indexes, indexes to legal materials employ subject descriptors however, because of the language and practice of law, strict principles are followed in indexing law materials and specificity is of the utmost importance to the researcher, as this will facilitate citing precedence to a case. Structurally, legal indexes have subject descriptors which may come from a controlled vocabulary considered a critical factor in indexing law materials; this is because legal decisions are often made on the precise definition of the meaning of words (Cleveland & Cleveland, 1990:120). By way of explanation, controlled vocabularies are used in subject indexing schemes, subject headings, thesauri and taxonomies; they are necessary for using pre-defined authorized terms which have been pre-selected for information retrieval purposes. Their use helps to reduce ambiguity inherent in normal human languages by ensuring consistency in a search process. An un-controlled vocabulary on the other hand, simply uses the natural language of the documents and matches that with the natural language of the user (Wikipedia contributors, 2008: Controlled vocabulary).

A common feature also of legal indexes is the elaborate cross-referencing structure. Cross-references act as internal navigation guides within the index by helping to reconcile the language of the document and the user thus preventing scattering of information i.e. *See, See Also, See under, etc. See* cross reference is a feature of vocabulary control which helps direct the user from a term not used in the index to one used as a heading, for example, divorce *See* family law. The use of *See* references assumes that the user is likely to consult a term not used in the index. *See also* functions to guide users to related or additional information for example, drug trafficking *See also* narcotics, while *See under* references refer to a term used as a sub-entry (Mulvany, 1994:8,101, 109-110). Some examples include:

- Citation indexes are an example of cross-referenced indexes, their purpose is to aid the researcher to trace the judicial history of a cited case; they are among the first to have been developed in the legal profession. Citation indexes consist of a list of articles with sub-lists under each article of subsequently published papers; they provide reference to judicial opinions in which other cases have been cited, reviewed, affirmed, over-ruled, criticized or commented on, some also give references to Acts in which statutes have been amended, renewed or repealed thus serving as a fundamental tool for citing precedence, for example, *Shepard's citation index*; a distinguishing feature of this index is its combination of letters and numbers for example, 833 F. Supp.1028 would be shortened to 33FS1028 (Jacobstein, Mersky & Dunn 1994:550). Legal citation is a challenging feature of legal research in which the researcher may likely experience difficulties.

- Indexes to legal periodicals and books: Periodicals play a crucial role in the shaping of the legal profession, they cover details of scholarly issues on various aspects of law and serve as a students' handbook, a practitioners' book and a foremost outlet of the legal research scholar (Price & Bitner, 1969: 275). They are usually not easy to locate because of their coverage, as such, *Indexes to legal periodicals* are important subject indexes by means of which cases, statutes and periodical articles relating to individual subjects may be located. They are alphabetically arranged according to topics dealt with in the case and

under each heading there are sub-headings arranged, modifications are also given under each sub-heading to narrow the field in order to provide a succinct description of the theme or topic dealt with in the case. (De Beer 2002-2004: viii). The applicable problems to which such an index could be of immense use to the legal researcher are:

- To locate a case in relation to a given statement of facts.
- To find a statute law relating to a given subject.
- To locate information on a legal subject general or specific.
- To identify or ascertain documents issued by government and governmental agencies.

In each case, primary tools such as subject indexes to statutes, indexes to foreign periodicals, case digests, and other similar materials are essential for this purpose (Hicks, 1942:327).

1.6.2 Computer Assisted Legal Research (CALR)

Computer Assisted Legal Research (CALR) emerged in the 1960's and 70's as a consequence of the efforts by legal academics and law librarians in the attempt to contain the growing mass of legal information; the versatility of the emerging computer technology with its promise of better storage capacity, efficient access and distribution methods provided a means to manage the ever-increasing mounds of legal information and ensure information retrieval in faster, cheaper and more accurate form: this marked the beginning of an entirely new legal communication and research strategy (Hibbits, 1997: Law reviews on-line). Dunn contends that the development of CALR, at the time it did

> "...was readily adaptable to organizing and retrieving legal materials which had become vast, increasingly complex, and often unmanageable..." (1993: 59).

CALR provided not only access to multi-jurisdictional case law to the researcher but also the ability to retrieve greater amounts of case law within a limited time and execute simultaneous search in multiple databases (Hellyer 2005: 290). Westlaw and Lexis databases are used both in South Africa and Nigeria.

However, despite the seemingly far-reaching successes of CALR, divergent views have been expressed as to the impact it has made on legal research as compared to print or "traditional" methods of research (Dunn, 1993: 59); quite a number of legal academics as well as librarians have made positive assertions about the versatility of CALR believing it to have liberated the researcher from the elaborate structures of the index and digest systems (Hellyer, 2005:288). Similarly, Bast & Pyle (2001: 286), in their analysis, indicate a paradigm shift in legal research in which print-based research is gradually giving way to computer-based strategies. They argued that the structural organization of Westlaw and Lexis which locates each document in a concordance within the database enables the computer to match keywords or phrases to the words in the concordance thereby shortening the time of search. In other words, with CALR, the researcher through a keyword search is able to retrieve the desired information rather than rely on the pre-determined index of a digest as is the case with print sources.

Hanson (2002: 571), however, in a critical analysis of the indexing system of CALR, views the domain of legal information as being hierarchically organized constituting primary, secondary, and tertiary tools as reflected in its citation system. He argues that CALR operates entirely on the basis of the index unlike print sources which combine the function of classification and indexing and as such, promotes the view of law as "a hierarchically organized system based on general principles". Other limitations have also been identified with CALR, for example, it requires the user to remember certain commands or guess search terms accurately in order to retrieve a document (Haigh, 1997: 248). Similarly, concerns have also been expressed at the prospect of increased citations to unpublished authorities through CALR. CALR may have provided speed and efficiency of access to legal information but the importance of print tools in legal research (i.e. indexes, digests, tables of contents, footnotes, section headings and so on) cannot be over emphasized as they serve to help the user maintain the context needed for comprehension. Some commentators are therefore of the view that CALR rather than replacing print sources, only serves as a complement (Haigh, 1997:250).

To this end, debates in legal education have been focused on issues of creating suitable pedagogical models for integrating research skills in both print and electronic sources for students with the aim of developing needed competencies for research

(Callister, 2003:22). Keefe (2005: 177) poses the challenge of information literacy as an important factor in addressing the issue of information explosion in the legal literature, which inhibits the ability of the student to locate and critically evaluate information. He contends that teaching students the advantages of using hierarchically organized print sources of law i.e. their taxonomic structure, vocabulary control and systematic arrangement, provides a sound basis for understanding and applying advanced search techniques in electronic research. Similarly, Dunn stressed

> "...the need for students to see the serendipitous value of using hard copy sources prior to learning how this print material has migrated into an electronically retrievable environment" (1993: 66).

Researching problems in law is more effective if systematically conducted. The University of Maryland, Marshall Thurgood Law Library (2007) outlines the following steps for effective legal research:

- Analyze the facts and formulate a preliminary statement of issues.
- Familiarize with the court structure of the jurisdiction.
- Conduct background research to get an overview of the subject area, identify issues and terms and get clues to primary sources i.e. determine whether issues involved are case law.
- Search for legal authorities using appropriate methods i.e. using a variety of tools to ensure a comprehensive research.
- Read and evaluate primary authorities.
- Make sure cases are still good law and have the current version of statutes.
- Refine analyses and formulate conclusion.

1.7 The role of librarians

The potential role of librarians in teaching information literacy within a legal setting is in the study phase with regards to inculcating the ability to translate concepts, ideas, and analytical tools learned in the classroom into actual context and into practice. Changes in information technology have indicated that librarians are vital to curriculum reform by shifting their roles from traditional research to participating in legal research instruction; this further emphasises the need for an integrated approach to skills instruction that will provide opportunities for them to engage in more instruction that is meaningful. In this regard continuous training of librarian is

essential in order to update their skills and ensure sustainability of information literacy programmes. Viljoen, notes that

> "Experience has shown that success and quality in information literacy depends largely on the degree of specialist knowledge and a careful analysis of the broad picture to eventually ensure that training products justify time and resources and are the best the library can offer under any given circumstance" (2005: 120).

1.8. Conclusion

This chapter provides a foundation to the research by exploring the different types and sources of legal materials. From the analysis, it is evident that legal research is more effective if systematically conducted and the ability of the researcher to obtain desired results bears much upon his/her knowledge of the substantive resources available in law. The need for students to understand the use of various organizational tools, their taxonomies, controlled vocabulary and the advantages of using hierarchically organized sources of law and legal commentary is a fundamental component of legal information literacy.

CHAPTER TWO
INFORMATION LITERACY: REVIEW OF RELATED LITERATURE

2.1 Introduction

The concept of "Information explosion" has today created the need for the ability to critically evaluate a myriad of available related resources. An analysis of the current information environment reveals an exponential increase of information resources in various formats both print and electronic (Rockman & Associates, 2004: 1); within the first quarter of the twenty first century alone, this growth has aroused increasing attention and concern from information specialists, librarians, academics and principal actors in the field of information and communication technology. The transition from the post-industrial to the information society powered by technological innovations in Information and Communications Technology (ICT) has meant that information has become a strategic commodity within the global economy generated exponentially and requiring in turn on the part of the user, a commensurate ability to access, evaluate, organize and re-distribute acquired information. Its efficient applicable use today has also become the determining factor for sustained democracy, informed citizenry and productive educational systems. It is within the purview of these debates that the concept of information literacy has gained widespread attention as a reality of the information era (Olsen & Coons, 1989: 8, 9).

2.1.1 Definition of term and historical overview

Information literacy has been viewed as a multi-faceted concept; definitions of the term have been relative to uses within the confines of various disciplines, workplace environment, other similar concepts and their application to information technology. Perceptions of the term as an emerging concept have tended to focus more on issues of access (to information), skill/competence in information handling, critical thinking

and problem solving. A prominent researcher in information literacy defines the concept as:

> "...the ability to manage and use information effectively for a range of purposes. As such, it is an important 'generic skill' which allows people to engage in effective decision-making, problem-solving and research. It also enables them to take responsibility for their own continued learning in areas of personal and professional interest" (Bruce, 1997a: information literacy).

An abundance of literature exists as to the evolution of the concept of information literacy: reference has however, often been made to Paul Zurkowskis' proposal to the National Commission of Library and Information Science (NCLIS) in 1974, in which he, in an analysis of the information service environment, described the provision of information as the driving wheel of the global economy. He defined information literate people as:

> "Those trained in the application of information resources to their work...[those] who have learned the techniques and skill for utilizing the wide range of information tools as well as primary sources in moulding information–solutions to their problems" (Behrens, 1994: 310).

Zurkowski saw information literacy as emerging from the transformation of traditional library services into more innovative private sector provision and associated policy issues (Bawden, 2001:230). Subsequent definitions of the concept, as traced by Behrens (1994), broadened Zurkowski's definition to include issues of skills acquisition. Burchinal, as cited by Behrens, (1994: 310), linked information literacy with the acquisition of a set of skills needed for locating and using information for efficient and effective problem-solving and decision-making. The significance of the concept as aligned to the discipline of Library and Information Science (LIS) was, however, made by Taylor also as cited by Behrens, (1994: 310), when he outlined certain "elements" such as the acquisition of facts, knowledge of information resources and information handling skills as vital components of information literacy. Similarly, Behrens, (1994: 312) notes that Demo's analysis of

the various technological innovations like CD-ROM, microcomputers, fibre-optics and satellite communications, in which he emphasized the need for information handling skills, stressed the importance of user education for the library user, thus further strengthening the concept of information literacy as a dominant issue in librarianship. Behrens' (1994: 309) historical analysis of the concept relates that the exponential growth of information re-directed attention to issues of information handling and brought to the fore the traditional role of libraries and librarianship. Breivik, as cited by Rockman and Associates, (2004: ix) reaffirms this significant connection by also noting that librarians have found themselves thrust into leadership roles in the learning process which has created a lot of challenges in which they are required to steer policy relating to the establishment of learning priorities.

Other definitions of information literacy implicitly tended to view it as a democratic ideal in which it serves a wider function of ensuring work efficiency and effectiveness (as initially propounded by Zurkowski) and informed citizenry as a pre-condition for the survival of democratic institutions (Bawden, 2001: 230). Olsen and Coons within this context, defined information literacy as:

> "A set of information concepts, knowledge and skills required to function effectively in society" (1989: 9).

Similarly, the American Library Association Presidential Committee on Information Literacy Final Report (1989) stated that:

> "Information literacy is needed to guarantee the survival of democratic institutions. All men are created equal but voters with information resources are in a position to make more intelligent decisions than citizens who are information illiterates. The application of information resources to the process of decision-making to fulfil civic responsibilities is a vital necessity" (American Library Association, 1989: The importance of information literacy to individuals, business and citizenship).

Technological innovations and the era of computer-aided manipulation of information in the mid 1980's further re-defined the concept of information literacy to include

issues of how information can be effectively managed for greater use. Rockman and Associates (2004:1), while analyzing the resultant impact of the information explosion era, noted the enormity of information resources at that date composing seventeen million internet sites, three billion web pages, and more than a million items in a typical medium-sized library, which required the users' ability to systematically find, evaluate and organize information for specific purposes. This era also marked the emergence of the concept of computer literacy which, often, has been synonymously used with the concept of information literacy and between which commentators have often failed to make distinctions of unique and duplicate sources. Bawden (2001:220), in an analysis of the occurrence of the term "literacy" in the literature, noted that the terms computer literacy and library literacy have maintained a steady presence in the literature between 1980-1999 with information literacy as a term gaining more prominence by 1999. Definitions of the concept of computer literacy have often indicated competence in the use of computers or ability in the use and application of software packages. Wikipedia defines computer literacy as:

> "The knowledge and ability a person has to use computers and technology efficiently" (Wikipedia contributors, 2006a: Computer literacy)

Another definition perceives it as:

> "Familiarity with the personal computer and the ability to create and manipulate documents and data via word processing, spreadsheets, databases, and other software tools" (Spitzer, Eisenberg & Lowe 2004: 8).

The inter-relation between the concepts of information literacy and computer literacy has often been debated with some commentators viewing computer literacy as a sub-set, an advancement or a pre-condition to information literacy. Taylor as cited by Bawden, (2001: 227), notes the tendency to equate computers and information and to interchange their applicable literacy as unfortunate considering, in his view, that computer literacy is insufficient for intelligent survival. Tuckett defines information literacy as:

> "The ability to effectively locate, evaluate and communicate information for a given need... [it] is an integrated set of skills,

> knowledge, and attitudes... [that is] maintained through changes in technology and resources... [and is] distinct from but related to computer literacy" (1989: 24).

He cites the consensus arrived at by the Library Instruction Round Table Mid-winter Conference (1989), an interest group of the American Library Association (ALA) on the definition of the concept, which supports the view that information literacy and computer literacy are separate but inter-related concepts and therefore emphasized the need to specify the differences. Horton, as cited by Bawden however contends that:

> "Information literacy, then, as opposed to computer literacy, means raising the level of awareness of individuals and enterprises to the knowledge explosion, and how machine-aided handling systems can help to identify, access, and obtain data, documents and literature needed for problem-solving and decision-making" (Bawden, 2001:228).

Horton rather views information literacy as bridging the literacy gap of users by updating their working knowledge of machine-aided tools and resources. Another definition agreeable to this view defines it as:

> "...Understanding the role and power of information and having the ability to locate, retrieve it, and use it in decision-making, and having the ability to generate and manipulate it using electronic processes" (Olsen & Coons, 1989: 8).

In response to calls for educational reform by the late 1970's, particularly in the USA, the concept of information literacy assumed a new dimension as commentators, specifically librarians and academics, began to emphasize the importance of skill acquisition, resource-based learning and lifelong learning during formal education. Behrens, (1994: 313) noted that by the second half of the decade, academic librarians were beginning to review user education programs with the aim of developing programs aimed at achieving information literacy. The Final Report of the American Library Association Presidential Committee on Information Literacy (American Library Association, 1989) was a major landmark in the development of the concept

of information literacy. In an analysis of the current information age and the overwhelming availability of information resources, the report emphasized the importance of information literacy as a survival skill in all facets of human endeavour. The Committee recommended, among others things, a re-structuring of the learning process of the educational system in which students would be actively involved. It also re-emphasized the role of the library which historically has provided a meaningful structure for relating information in ways that facilitate the development of knowledge in preparing people for the demands of the information society through lifelong learning. The report, in its analysis, defined information literate people as:

> "Those who have learned how to learn, they know how to learn because they know how knowledge is organized, how to find information and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand" (American Library Association, 1989).

Basically, the characteristics of the information literate individual as outlined by the report included the ability to:

- Know when information is needed.
- Identify the needed information.
- Find the needed information.
- Evaluate the information.
- Organize the information.
- Use the information effectively to address the problem or issue at hand.

In 2000, in recognition of the importance of this document and the increasing importance of the concept of information literacy, the Association of College and Research Libraries (ACRL) adopted these recommendations by publishing a set of five "Information Literacy Competency Standards" which has served as a benchmark for implementing and assessing information literacy initiatives in various institutions of learning (De Jager & Nassimbeni, 2002:168).

2.1.2 Association of College and Research Libraries (ACRL) Information Literacy Competency Standards, 2000

The Association of College and Research Libraries' (ACRL) Information Literacy Competency Standards, 2000 was based on its bibliographic instructional model developed by a Task Force in 1997, which was set up with the aim of reviewing the 1987 model statements of objectives for academic instruction (Association of College and Research Libraries, 2000). The document contains five standards, twenty-two performance indicators and eighty-six outcomes of information literacy behaviour which apply to the needs of students in all educational levels and provides a means of assessing students' progress towards information literacy (Snavely, 2001: 2). An analysis of the document reveals a fusion of competencies which include library literacy, computer literacy, media literacy, technological literacy, ethics, critical thinking and communication skills, articulated into a set of five competencies which define key areas of desirable behaviour for the information literate student with the aid of the performance indicators (Barbour, Gavin & Canfield, 2004: 4). The design of the document is aimed at providing systematic methods of measuring students' research strategies by ensuring a process of lifelong learning. In pedagogical applications, the document stresses the need for the Standards to be integrated into the content, structure and sequence of an academic curriculum as this

> "...affords many possibilities for furthering the influence and impact of such student-centred teaching methods as problem-based learning, evidence-based learning and inquiry-learning" (Association of College and Research Libraries 2000).

The application of the Association of College and Research Libraries' Standards has produced differing results from various institutions. Some commentators, including Moore (2002: 14), have noted that outcomes of the application have often depended on the mission statement of the institution, its educational goals, collaboration between librarians and faculty, support from administration and availability of funds. This indicates that there is still room for debate about the distinction between the formalist and realist views on the definitions of information literacy. The Association

of College and Research Libraries Information Literacy Competency Standards for Higher Education has however, served as a guiding principle for various educational institutions in different countries for developing similar standards or models. In 1998, the Standing Conference of National and University Libraries (SCONUL), an organisation based in the United Kingdom, set up a similar Task Force with the objective of:

> "Stimulating the debate about the place of information skills within the context of current activity surrounding "key skills", "graduate-ness" and "long-life learning" (Bainton, 2001: 2).

The Standing Conference of National and University Libraries' (SCONUL) approach, rather than setting up standards, developed a model of information literacy for which it proposed seven set of *skills* [italics, mine]. The model diagrammatically proposes a progressive state of competence for the information literate individual from basic library skills to proficiency in information literacy skills (Webber & Johnston, 2003a: Introduction). Its approach aimed at making a clear distinction between information technology and information [handling] skills, both of which it considers essential parts of the wider concept of information literacy (Bainton, 2001: 1). Within the context of higher education, the Standing Conference of National and University Libraries' approach sought to address issues relating to students' study skills as regards information handling and developing in the student:

> "An attribute of awareness and understanding of the way in which information is produced in the modern world, critical appraisal of the content and validity of the information" (Bainton, 2001: 5).

In making a comparison, Andretta and Cutting (2003: 203) noted that by making a clear distinction between information handling competencies and information and communication skills, the Standing Conference of National and University Libraries' model is more contextualised to the academic environment, unlike the Association of College and Research Libraries' definition which sets information literacy within a social scenario, also indicative of the formalist realist approaches to information literacy.

In Australia and New Zealand, similar standards for information literacy in higher education have also been developed. The conceptual analysis of the "Framework" includes issues of curriculum alignment and student assessment of information literacy learning outcomes as a tool for directing and facilitating student learning (Bundy, 2004: 27). As noted by Webber and Johnston (2003a: Introduction), the Framework, which is largely adopted from the Association of College and Research Libraries' Standards, is more inclusive as it refers more to the information literate "individual" rather than the student, and the inclusion of two additional standards gives it a broader perspective of information literacy. Similarly, Mittermeyer (2005: 210) also notes that by incorporating recent local and international understandings of information literacy, the Framework provides a new perspective to statements of information literacy standards. In Canada, under the auspices of the Sub-committee on Libraries of the Conference of Rectors and Principals of Quebec Universities (CREPUQ), a forum aimed at debating issues surrounding best practices for integrating information literacy in university education, was organised in 1991 with the aim of providing libraries and administrators with reliable data to support recommendations for the integration of information literacy into the university curriculum. Similar attempts have also been undertaken in France but with conceptions of information as a process of "acquiring an information culture" (Mittermeyer, 2005: 204, 205).

Essentially, the establishment of the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education constitutes an important benchmark for establishing goals for lifelong learning in academia and has brought to the fore the institutional role of higher education in developing intellectual abilities and critical thinking skills (Association of College and Research Libraries, 2000). To this end, Snavely, (2001: 2) has put forward a proposal for an international approach to the ACRL Standards to which Webber and Johnston (2003a: Introduction) were quick to point out may only be a translation of the United States Standards into various languages which may be incompatible to other countries, as studies have shown that though similarities of educational goals and concerns may exist, information literacy does bear cultural differences in terms of application and outcomes. Kapitzke (2003: 58) particularly notes that most conceptualizations of

information literacy tend to assume it is a neutral method with generic universal outcomes which tends to undermine the ideological, historical and cultural context of information and knowledge production (Tuominen, Savolainen & Talja, 2005: 336).

Moore (2002: 2), in an analysis of information literacy education worldwide, acknowledges a general agreement on the elements and definition of information literacy in terms of attributes, behavioural standards for students and rubrics of assessment. She however noted that the variety of models developed by many countries tend to focus more on identifying information skills shortage rather than the learning outcomes made possible through information literacy. Similarly, assessing progress made by these initiatives depends largely on the perceptions of their originators and the constraints of their information environment, which invariably means that responses to information literacy experiences may differ among countries. She cites Bruce's (1997b) proposal of a relational approach which views information literacy as a concept that is constructed in terms of varying relations between people as an applicable solution.

The concept of information literacy has become an issue of global discourse; within the current decade, issues in information literacy especially in higher education have attained a "second level of maturity" (Mittermeyer, 2005: 207). The increasing volume of information resources and variable methods of access, which has raised questions and concerns about the validity, authenticity, and reliability of information sources, has increasingly placed greater emphasis on higher education for information-related education (Bundy, 2004: Why has the idea of information literacy taken root). The concept and concerns of information literacy are seen by many commentators as a "shared vision" (Snavely, 2001: 2) and the internationalization of the concept has increasingly projected its global importance (Mittermeyer, 2005: 208). Currently, institutions of higher learning, university libraries and their key bodies are actively involved in collaborative efforts aimed at identifying different conceptions of information literacy and relating it to research findings conducted internationally; concerns include addressing issues of disciplinary differences, impact assessment and testing of discipline-related methods (Mittermeyer, 2005: 208). Sadly, though, developing countries particularly Africa, still have a long way to go in developing initiatives towards information literacy (Somi & De Jager, 2005: 266). It

is worth noting according to Moore, (2002: 14) that the impetus for information literacy in higher education is (and remains) a shared vision of the advocates and stakeholders of the library, educators, economists and information specialists.

2.2 Review and analysis of related concepts

The multi-faceted nature of the concept of information literacy has led to an evolution of various forms of literacies, a wide range of which are often used interchangeably or synonymously with information literacy, these include: computer literacy, science literacy, media literacy, mathematical literacy, digital literacy, electronic literacy, visual literacy, health literacy, technological literacy, and so on (Tuominen, Savolainen & Talja, 2005: 329). Literacy as a concept conveys the notion of an ability to read and write or an element of learning or education in an individual. The *Concise Oxford English dictionary* defines literacy as:

> "The ability to read and write or competence or knowledge in a specified area" (Soanes & Angus, 2004).

Bawden, (2001: 220-221), in an analysis, views literacy as a relative concept operating a dual nature which denotes not only an ability to read and comprehend basic forms of information but also having an understanding, or an awareness, and a skill in language or communication. He regards it essentially as a fundamental act of cognition which involves logical thinking, higher order cognitive skills and reasoning. He notes that in the information age, the concept of literacy has taken on additional value in the form of an ability to effectively use sources of information in order to participate actively in a technologically driven society. The changing nature of literacy, as reviewed by Behrens (1994: 311), has further broadened conceptualizations of its applicability to different disciplines, professions and sources of information, giving rise to more esoteric terms such as agricultural literacy, moral literacy, dance literacy, political literacy, investment literacy, multi-cultural literacy, and so on, thereby leading to an increasing requirement for skilled-based literacies to deal with its various forms (Snavely & Cooper, 1997a: 12).

2.2.1 Computer literacy

Definitions of computer literacy have often, implied proficiency or skill with the use and application of computer software/hardware to accomplish a given task. Within this context, Horton, as quoted by Bawden, defines computer literacy as:

> "Having an understanding of what the machine can and cannot do" (Bawden, 2001: 226).

As previously outlined, information literacy and computer literacy have been considered as mutually inter-related terms and often synonymously used and as result, suggestions have been offered for the merger of both concepts, i.e. Information literacy and Computer Literacy (ICL), as a hybrid subject to reflect their inter-related nature. This proposal was first put forward by the Advisory Committee for Education and Technology of the Netherlands, defining it as:

> "The knowledge and skills concerning the use of computers for getting information to solve a given problem or to know about a certain subject, as well as for control of processes" (Bawden, 2001: 227).

Technology has often shaped definitions of computer literacy (Hoffman & Blake, 2003: 228): the emergence of the Internet and the World Wide Web in the 1990's and their capacity to store, process and distribute information rapidly, altered our appreciation of the use of technology and resulted in other concepts such as cyber literacy, hyper literacy and other forms of electronic/technological literacies requiring higher processing skills (Hoffman & Blake, 2003: 223). Technological literacy therefore, by definition, is seen as being much broader as it encompasses knowledge, ways of thinking and capabilities beyond the level of computer literacy. The technologically literate person has, among other things, an ability to understand basic engineering concepts, technological terms such as systems constraints, and tradeoffs and recognise the pervasiveness of technology in everyday life (Technically Speaking, 2006: What is tech lit). Similarly, definitions of electronic literacy view it as a literacy that ranges from tool resource literacy, publishing literacy, electronic communication and critical literacy all of which incorporate new technologies needed for decision-making (Garthwait, 1997: Definition). Bawden, (2001: 246) provides another variant

to these with the concept of digital literacy which he defines as "the ability to read and understand hyper-textual and multi-media texts". Digital literacy emphasises information retrieval and management in terms of access to networked computer resources, it involves a mastery of a set of core competencies in dealing with multi-media information in a hyper-text environment (Bawden, 2001: 247). Other related concepts to digital literacy include network literacy, internet literacy, hyper-literacy, and so on.

However, advances in technological innovations have meant that keeping pace with transformations in technology will be difficult if not unproductive; suggestions have therefore been offered that emphasis in technological training should rather be placed on the fundamental scientific principles and concepts of the field which are resistant to constant technological and social transformations (Spitzer, Eisenberg & Lowe, 1998: 210). Such views led to the concept of Information Technology (IT) Fluency.

The concept of IT Fluency was first mooted by the Committee on Information Literacy of the US National Research Council which, as part of its recommendations, suggested the term in preference to the "far too modest" concept of computer literacy which is skilled-based and often rendered obsolete with the emergence of new technologies (Bawden, 2001: 226). Lin (2000: 70) views IT Fluency as having a skills component, but also including an understanding of the foundational concepts of information technology and the ability to use problem-solving intellectual capabilities in an information technology context. IT Fluency, adopted as "FITness" by the Committee on Information Technology Literacy (CITL), emphasises the development of information technology literacy, suitable for a life time of information technology (IT) advances and improvements in terms of expertise or ability to use information technology effectively (Claremont McKenna College, 2006). It is a process of lifelong learning which requires the acquisition of three kinds of knowledge: that is fundamental concepts, contemporary skills and intellectual capabilities (Snyder, 2003: 6). IT Fluency is viewed by its proponents as a tripartite solution to the wave of technological and social revolutions which is characteristic of the information technology age.

Hoffman and Blake (2003: 226), in an analysis, contend that computer technology has played a vital role in the development of information literacy; this is because technological innovations and their consequent integration into the social context of everyday living have shaped courses (and issues) in information literacy. Shapiro and Hughes, in a comparison of both concepts, conceived information literacy as a:

> "...new liberal art that extends from knowing how to use computers and access information, to a critical reflection on the nature of information itself, its technical infrastructure, its social, cultural and even philosophical context and impact - as essential to the mental framework of the educated information-age citizen...." (1996: 31).

In their argument, they propose a multi-dimensional curriculum of information literacy that will encompass tool literacy, resource literacy, social structural literacy, research literacy, publishing literacy, emerging technological literacy, and critical literacy to equip people with functional technical skills for the information age.

2.2.2 Media literacy

Considine defined media literacy as:

> "The ability to assess, analyze, evaluate and communicate information in a variety of formats including print and non-print" (Considine, 1995: 2).

As reviewed by Behrens (1994: 311), concern for media literacy was first voiced by Hamelink who advocated the need for the public to be liberated from the oppressive effects of institutionalised public media. Similar concerns have also arisen out of the need to re-assess and address issues that affect children as regards information obtained from television and the internet which often portray violence and exposures to graphic sexual material. Media literacy is therefore based on the premise that the expanded medium of information and communication technologies requires an ability for the media literate to sift through these sources in questioning the authenticity of all forms of information. To be media literate means that the individual -

> "Recognises the rhetorical arguments and techniques being used to persuade an audience to accept a specific political position, buy a

specific product, or watch a specific program" (The City University of New York, 2001: Media literacy).

The City University of New York, (2001: Media literacy) further outlines the attribute of the media literate to include the ability to:

- Assess the credibility of the source of information retrieved.
- Recognise the metaphor and other uses of symbols of entertainment, advertising and political commentary.
- Discern between appeals to emotion and logic and recognise covert and overt appeals.
- Have sensitivity to verbal as well as visual arguments.
- Use critical faculties to assess truth of information gleaned from various sources.

Bawden (2001: 225) points out that the concept of media literacy seems to overlap with the more general concepts of information literacy as these sources of information partially complement or coincide with other formal library sources.

2.2.3 Health literacy

Health literacy is considered another sub-set of information literacy which relates to the degree to which people understand and utilize basic health information for informed decision-making for healthy living (Hsu, Johnson, & Brooks, 2003) ; (Grant, 2002: 1). Health literacy is defined as:

> "The capacity of an individual to obtain, interpret, and understand basic health information services and the competence to use such information services in ways which are health-enhancing...which may include the ability of the patient to follow doctors' instruction, read prescriptions, manage an illness or provide informed consent" (Grant, 2002: 7).

Grant (2002:3) affirms that in consideration of the rapid technological advances in medical health and the vast availability of health information

(some of doubtful quality), the principles of information literacy play an important role in promoting preventive health measures in health care services.

2.2.4 Academic literacy

Academic literacy indicates fluency with the particular ways of thinking, doing, reading and writing which are peculiar to the academic context (University of Cape Town Centre for Higher Education and Development Multimedia Education Group, [MEG] 2006). Geisler (2004: ix), views academic literacy as a cultural practice with effects that can be recognised in a multitude of places which could either be:

- In genres, how texts are written and interpreted rhetorically.
- In cognition, i.e. how individuals organise and manage the doing and thinking of reading and writing texts.
- In schooling, how teachers and students working together transmit or fail to transmit expertise.
- In institutions, how groups are organised to create and receive expert advice.

Academic literacy constitutes "developing an awareness among students of the enabling skills for reading and writing and the ways in which they are acquired, developed and sustained within a broader multi-lingual and socio-cultural context from primary through tertiary level" (University of South Africa Academic Literacy Research Unit [ARLU], 2005).

2.2.5 Workplace information literacy

Information literacy initiatives undertaken in the workplace context in the United States, South Africa, Singapore, Europe and Australia, have revealed that information literacy is economically necessary and is one of the essential competencies for solid job performance (Cheuk, 2002: 1). In an educational setting, information literacy is conceived as a tangible process that requires the attainment of certain skills and competence for independent lifelong learning; workplace information literacy gives

an alternative view as it provides a context for developing collective competency skills which may not be reliant solely on formal educational settings (Lloyd, 2005: 82-83). Changes in the global business environment mean that the contemporary workplace setting places a requirement on the employee for the ability to access, manage and use a wide range of information delivered in a variety of formats and through multiple channels (Cheuk, 2002: 2). Lloyd, in a study of workplace information literacy conducted among fire fighters in Australia, provides a conceptual view of the subject from which she generates a broader definition of the concept of information literacy as:

> "Information literate people have a deep awareness, connection and fluency with the information environment. Information literate people are engaged, enabled, enriched and embodied by social, procedural and physical information that constitutes an information universe. Information literacy is a way of knowing that universe" (2005: 84).

Tuominen, Savolainen and Talja (2005: 329) also agree that information literacy evolves in the course of conducting specific work-related tasks and mundane activities within a complex system of social relationships and work organization. To this end, commentators have suggested that similar initiatives and efforts as undertaken by librarians and academics in higher education to promote information literacy in student curriculum could be used to fill the gap in the workplace context (Cheuk, 2002: 11).

The emergence of information literacy from what seemed to have been a general concern to address issues of using information tools and other primary sources is today being experienced as a "literacy boom" in which the concept has led to the continual evolution of related concepts (Tuominen, Savolainen & Talja, 2005: 329). Bruce (2002: 1) views information literacy as a critical literacy (among other literacies) for the twenty-first century in which constant, complex changes in technological innovations have made information literacy a natural extension of the information society. Bawden (2001: 218) earlier noted that previous attempts had not been made to relate information literacy with other concepts; however, today, information literacy has become an "umbrella concept", a "common denominator"

and a "meta-competency" for various information-related skills and abilities needed for information use (Tuominen, Savolainen & Talja, 2005: 330-331; Lloyd, 2005: 84). Similarly, Hoffman and Blake (2003: 226-227) noted a "confluence" or a "convergence" of literacies over the past twenty years, due to the rapid growth of technological innovations. The emergence of these literacies, largely suggests that the role of Library and Information Science (LIS) as a discipline in information literacy is considerable across a range of educational and professional life and indicative of its potential transformative power in the information society.

2.3 Information literacy and bibliographic instruction

Definitions of the concept of information literacy which emphasize the user's ability to locate, evaluate and use resources has increasingly fortified the philosophy of active librarianship as a profession whose goals and objectives are the effective dissemination of information. Fjallbrant and Stevenson (1978:11) and Bruce (1997a: 42) assert that insights into information literacy education point to the conclusion that similarities have existed between information literacy education and library teaching and learning programmes in the form of user education, library instruction and bibliographic instruction. Some ongoing debates on the evolution of the concept of information literacy have tended to support views which link the evolution of the concept to earlier efforts of user education programmes, library orientation and bibliographic instruction, all of which were aimed at developing the user's ability to locate library resources. These concepts have been used inter-changeably to refer to the processes of developing user skill for information retrieval; bibliographic instruction in particular has also been used synonymously with information literacy. For the purpose of clarity, a careful analysis of these terms is necessary. The *Online dictionary of library and information science* (ODLIS) gives the following distinctive definitions of the concepts:

User education refers to:

> "All activities involved in teaching users how to make the best possible use of library resources, services and facilities including formal and informal instruction delivered by the librarian or any staff member one-on-one or in a group" (Reitz, 2006: User education).

Library instruction involves:

> "The teaching of skills in finding information one needs including an understanding of how libraries are organized, familiarity with the resources they provide (including information formats and automated search tools) and knowledge of commonly used research techniques. The concept also includes the skills required to critically evaluate information contents and employ them effectively" (Reitz, 2006: Library instruction).

Bibliographic instruction is:

> "An instructional program designed to teach library users how to locate the information they need quickly and effectively. Bibliographic instruction usually covers the library's system of organizing materials, the structure of the literature of the field, research methodology approach in the discipline..." (Reitz, 2006: Bibliographic instruction).

Fjallbrant and Stevenson (1978: 9, 10) recount that the history of bibliographic instruction can be traced to 1949 when proposals for the development of a three-stage program of user instruction was put forward. Tiefel (1995:318), however, traces the history of user education in the United States of America (USA) to as far back as 1881 when the objectives of user education were set out to include such components as the desire to develop in the student an attitude of independent learning and critical judgment. As early as then, there were concerns about the increasing intricacies of research as a result of the growth of literature and increasing diversity in inter-disciplinary courses which cut across boundaries of subjects and in varying formats, all of which justified the necessity for developing user education programmes in libraries. These concerns led to the formulation in 1971, of the Bibliographic Instruction Tasks Force (later re-named the Bibliographic Instruction Section) by the Association of College and Research Libraries (ACRL), whose main objective was to promote research in library instruction, encourage the development of programs and investigate the state of the art in library instruction. The outcome of this Task Force was the production of the Guidelines for Bibliographic Instruction in Academic Libraries approved by the Association of College and Research Libraries (ACRL) in

1977 (Fjallbrant & Stevenson, 1978: 9-10). Similarly, Rice (1981:332) also notes that the establishment of the Library Orientation Exchange program (LOEX) in 1972 with funding from the Council on Library Resources was a major landmark to the library instruction movement. Murdock (1995: 26), however, views bibliographic instruction as a relatively modern construct with a history spanning the last three decades, constituting a generation of thoughts within those periods. She concludes that between the 1970's the first generation, bibliographic instruction was viewed as library orientation. The second generation, the 1980's, saw the development of a growing trend towards defining bibliographic instruction as a way of teaching patrons how to use library resources. The 1990's saw a shift from print oriented library services toward information profusion in various formats, including multimedia for diverse user groups; in this case, she asserts, bibliographic instruction has not adequately re-defined itself to deal with the current context of information in its various formats.

Rice (1981:5), while analyzing the method of the execution of these programmes, classifies them into three levels noting that library instruction and/or library orientation involves a general introduction of the resources of the library, staff, services, policies and an in-depth explanation of specific library materials such as the card catalogue, reference tools, indexes, encyclopedias, *Readers guide to periodical literature*, bibliographic materials, and so on. Bibliographic orientation, which is a much broader term than these, is an integration of the objectives met by library instruction and library orientation: it begins with a realization that information is valuable and that the library is an important source of information. Bibliographic instruction is usually course-related, involving all aspects of information access and utilization in helping the user develop mastery of the ability to undertake research in a given field. Depths of coverage of the courses involved may include subject headings, vocabulary control, footnotes and references, bibliographies, search strategies, writing a research paper, style, and so on. The ability of the user to effectively locate and utilize information is of paramount importance to the learning process of education (Rice, 1981: 4).

Bibliographic instruction as earlier noted is course-related; the one-shot approach to the execution of the course has, however, often constituted a problem as it does not provide the instruction librarian the opportunity to make a lasting impact on the user.

Farber (1980: 44) argues that the execution of bibliographic instruction programmes through existing courses is preferable to a separate course as this enables efficiency at all levels and is more structured towards developing skill in the student. Stephenson (1980: 83) also argued that an effective programme of library instruction should train students towards the goal of independent scholarship and the only way to develop and sustain student enthusiasm for lifelong learning is to conduct bibliographic instruction within the context of the individual course and departmental programme. Tiefel (1995: 318) also notes that course-related instruction has long been viewed as one of the most effective methods of user education, but the need for faculty cooperation has always been an issue of concern. Bibliographic instruction has always provided a basis for the user to develop an initiative and independence in learning as a foundation for continual self-education. Fjallbrant and Stevenson (1978: 9-10), in reviewing the history of bibliographic instruction, pointed-out that earlier attempts to justify the necessity of user education were based on the confidence that knowing how to use the library is an essential part of the goals of education as a way of preparing the student for the continuing process of self education. They argued that the explosion of knowledge further emphasizes the importance for the ability to continue to learn throughout life.

From the fore going, and as variously expressed, it is obvious that issues of curriculum integration, information explosion and lifelong learning, which are considered major concerns for the emergence and thrust of information literacy, have been long standing in bibliographic instruction. Grassian (2004: 53) particularly notes that programmes of bibliographic instruction which have existed since the 1960s under various names like user education, library instruction or library orientation have always included concepts and issues such as active learning, teaching, faculty cooperation, integration into curriculum, credit courses, and so on; its proponents were only constrained by the physical and technological limitations of their time.

The inter-relationship between the concept of information literacy and bibliographic instruction has been an issue of interesting discourse especially among librarians in the academic setting with views expressed which suggest the distinction to be that of process-to-product versus methodological approach. In other words, information

literacy is perceived by many as a process of inculcating a condition of literacy in the individual while bibliographic instruction is essentially a method or a discipline for learning skills (Arp 1990: 46, 49). Rader and Coons as cited by Bawden (2001: 236) suggest that the distinction between the two concepts is that:

> "Bibliographic instruction is often more a situation-specific response, whereas information literacy contributes towards lifelong learning by educating individuals to effectively utilize and evaluate information".

Arp (1990:49) also adds that the concept of information literacy unlike bibliographic instruction is more identifiable to those outside of the field of librarianship. Bruce (1997a: 45) observes that the distinction between information literacy education and bibliographic instruction is that of library skills and information skills. She argues that information literacy education is based on fostering the skills, knowledge and attitudes which are required for learning from different information sources whereas bibliographic instruction focuses on skills, knowledge and attitudes required for learning from formal, library based information systems; within the educational environment therefore, though these qualities may be similar in both concepts, the context in which they are applied is much broader in an information literacy educational setting. Reichel (1991: 49) also comments that the distinction between both concepts is the emphasis information literacy places on the user rather than the librarian as is the case with bibliographic or library instruction. White (1992: Abdicating our intermediary role), on the contrary, observes that though bibliographic instruction may have been mis-named, some of the goals of information literacy are not new but are, in fact, part of the programmes of bibliographic instruction. He maintains that what is required for the concept of bibliographic instruction is a more accurate, descriptive and rewarding name, to which he suggests information empowerment in preference to information literacy.

Others (University of Toronto, John P. Robarts Research Library, [2006]) have perceived bibliographic instruction as one end of the continuum, the other end being information literacy in the sense that while:

- Bibliographic instruction is library controlled; information literacy is a collaborative responsibility among librarians and faculty.

- Bibliographic instruction is external or tangential to the curriculum; information literacy is integral to the curriculum.
- Bibliographic instruction is isolated and has isolated learning episodes, i.e. one-shot experience, unlinked to credit courses; information literacy is pervasive throughout the curriculum i.e. linked to courses through competency requirement.
- Bibliographic instruction is focused on tools and search interfaces; information literacy focuses on overarching concepts and critical thinking standards.
- Bibliographic instruction is didactic in approach; information literacy focuses on the construction of learning environments with faculty as coaches and guides.
- Bibliographic instruction is limited in learning transfer; information literacy has increased learning transfer because of multiple learning opportunities.
- Bibliographic instruction is limited in evaluation and measurements are skills-based; information literacy focuses on competencies and standards as yardsticks for outcomes-based approaches.
- Bibliographic instruction focuses on specific skills; information literacy focuses on the unbounded universe of information.
- Bibliographic instruction is inflexible and rigid in the use of technology; information literacy is expanded in its use of technology.

Snavely and Cooper (1997a:10) have also proposed that with information literacy, librarians have embarked on a new trend in library instruction which includes, among other things, developing independence in student learning and a corresponding ability to be creative and have a critical approach in using information for lifelong learning. Bruce (1997a: 46) proffers a change in terminology to the curriculum from bibliographic instruction to information literacy education. She contends that this is out of the need to execute library programmes that are identifiable to those outside of the library or educational setting; this is also suggested by Arp (1990:49). In this way information literacy can serve as a vehicle through which learning occurs. Grassian (2004: 53), however, while noting that information literacy is broader in scope in

terms of outreach, collaboration and sequenced learning beyond the library, proposes a combination of information literacy and bibliographic instruction, termed Information Literacy Instruction, with greater attention given to balancing both concepts as well as instructional formats. This instructional model as viewed by Grassian and Kaplowitz (2001:13) is a natural progression in the field or perhaps a new name for bibliographic instruction, the advantage being that it capitalizes on the current societal and educational trends and is more readily understood by those outside the field. Tiefel (1995:326) surmises the future of bibliographic instruction and information literacy as one in which information literacy will become the main objective of user education as a vehicle for promoting lifelong learning; for the instruction librarian, Oberman, as cited by Grassian and Kaplowitz (2001: xxvii), notes that the increasing complexity of information and the need for information literacy, has created more challenges for the reference librarian to not only understand but also be able to identify and apply the literature of the body of information as it relates to different disciplines.

Deductively, the history of bibliographic instruction, as also noted by Rice (1981:7), is one of a developing process which indicates that the concerted and energetic efforts by librarians towards bibliographic instruction in the area of curriculum integration, together with concerns over the intricacies of research due to the complexity of information sources and issues of lifelong learning which are current issues in information literacy, has always been deeply rooted in the profession.

2.4 Information literacy critique

The discourse around the concept of information literacy is one that has generated a lot of debate which in itself represents a broad spectrum of views. The arguments may be summarised as showing that quite a number of articles have been written which are either in support of, conflict with or refute the main issues surrounding the concept of information literacy. An analysis of the contending issues surrounding the debate, mainly issues of conceptualisation, assessment and measurement of standards, professionalism, and so on will help in putting these views in perspective and perhaps contribute to the discourse.

2.4.1 Conceptualisation

Debates concerning the conceptualisation of information literacy have been those which have questioned the assumptions and the validity of its use especially in relation to its application in higher education. Bruce (1997b: 10) comments that despite widespread acceptance, the concept of information literacy has not been without severe criticisms and challenges. Owusu-Ansah (2003: 219) also observes that issues of clarity concerning the conceptualisation of information literacy have fuelled the debates challenging its actualisation in higher education. Objections to the term as noted by Snavely and Cooper (1997a: 9-10) has necessitated a clarification of the concept from other related concepts such as library instruction and bibliographic instruction. The ambiguities surrounding the conceptualisation of information literacy in the opinion of Tuominen, Savolainen and Talja (2005: 332), stems from the combination of two distinct terms, that is, "information" and "literacy", terms which tend to resist exact definition: the ambiguity is further aggravated when associated with similar terms such as skill, ability and competence. Miller, as cited by Snavely and Cooper (1997a: 10), observes that the word "literacy" carries a connotation of "illiteracy" which places users at a remedial level of understanding in relation to the librarian. Arp (1990: 49), in an analysis, observes that the defining characteristics of literacy as a concept are always bound to change with societal needs. She cautions that literacy in an historical context has been used as a way of defining social structure and an alignment by librarians to this movement brings to question issues of testing in a large scale, a task she considers difficult especially in higher education. McCrank (1992: 485) views the definition of the concept of literacy as one that is limitless as it includes the interpretation of all kinds of signs and documents: to restrict its definition therefore to a given programme results in the tendency to generalise its meaning. This perhaps explains his view of information literacy as a value-laden term embracing other terms and deriving meaning from them.

Others have, however, chosen to view literacy as a continuum (Arp 1990: 49); Owusu-Ansah (2003: 221), in support of literacy as a phenomenon, opines that the target of the proponents of information literacy is a literacy that is specifically information-related, addressing skills, abilities, mindsets, individual knowledge bases

and social processes in the goal of attaining a level of proficiency in the information society. Bawden, (2001: 222) observes that the definition of literacy implies an ability to read and write and the concept of information literacy as defined in the various frameworks, standards and models suggests that there is a measurable component to illiteracy which can be cured by well defined means. Similarly, Foster (1993: 346) questions the measurement of illiteracy as contained in the American Library Association's Presidential Committee Report on Information Literacy, 1989: he maintains rather that the information literate are those who are resourceful, intelligent people who are able to apply acquired information to a given problem.

2.4.2 Assessment and measurement of standards

The pre-occupation with measurement and assessment of skills which characterise most definitions of information literacy has also been widely criticised. Tuominen, Savolainen and Talja (2005: 330) note that the generic skills approach seems to be theoretically and practically the most logical view. They argued that most definitions of information literacy tend to reflect broad descriptions of attributes of the individual which combine blocks of skills and competencies related to information handling and use, taught and measured independently of the practical tasks and context in which they are used. Kapitzke (2003: 57-58) observes that the psycho-logistic terms in which definitions of information literacy tend to be expressed seems to signify the rationalist and binarist discourse of modernity from which it emerged. McCrank (1992: 485-486) views the American Library Association's definition as being too much of a descriptive discourse, he points out that the tendency to describe rather than define information literacy is due to its idealistic nature which reflects it as an inter-locking set of skills and knowledge characterised by an ability or behaviour not restricted to any subject discipline. Bruce (1997b: 27), however, explains that the diversity of the concepts that form the background of information literacy explains, to some extent, why scholars choose to describe rather than define it.

Webber and Johnston (2003b: 382), while analysing the American Library Association's Presidential Committee Report on Information Literacy of 1989, noted that rather than mapping a subject area, the definition focused on descriptions of personal skills: this seems to have established a trend as subsequent definitions, for

example, Association of College and Research Libraries' (ACRL) Information Literacy Competency Standards of 2000, the Standing Conference of National and University Libraries (SCONUL) skills approach, Eisenberg and Berkowitz's (1990) *Big Six Skills,* also followed suit. This "recipe" approach, they argued, creates a perception that the pathway to information literacy involves a series of steps in order to achieve success. Still commenting on the issue of skills, Whitson (1998: 307) opines that concepts relating to key skills seem not to have been thoroughly explored especially as regards transferability. He notes that the key skills approaches tend to fragment knowledge by way of projecting it as a surface-learning approach. Virkus (2002:The concept of Information literacy used and discussed by European authors) notes that, despite the successful impact made by the implementation of the Association of College and Research Libraries' Information Literacy Competency Standards of 2000, as evidenced by its translation into various languages, some authors have criticised its application in some institutions of learning. To this view, Homann (2001: 4) adds that though the Anglo-American models of information literacy have been significant for extending the content and methodology of new approaches to user education in Germany, their importance has primarily been restricted to planning activities rather than practical courses.

Closely related to the above is the contentious issue of subject content and curricula with respect to implementation. Grafstein (2002:197) observes that the literature of information literacy tended to emphasise the teaching of generic skills related to the general processes of retrieving and evaluating information as opposed to the skills required for acquiring knowledge or doing research in a specific subject area. Mutch's position parallels this view when he states that:

> "...the quest for information literacy draws us inexorably into deeper questions about the nature of knowledge pointing again for it to be embedded in subject-based thought rather than being treated as stand-alone specialism" (1997:385).

Similarly, Webber and Johnston (2003c: Subject curricula) comment that the substantive efforts made towards developing standards, frameworks and models have not been matched with developing programmes of curricula. They noted that gaps have often been identified with current practices especially with regards to assessment

and prescription agenda set out by bodies like Association of College and Research Libraries (ACRL) and Standing Conference of National and University Libraries (SCONUL) ; while, for example, Association of College and Research Libraries' Standards assumes that competencies are mastered for good once each unit has been completed, the Standing Conference of National and University Libraries' (SCONUL) skills approach tends to emphasise information technology skills in the various subject curricula with limited appreciation of the wider implications of the information society for higher education, teaching and learning. Bundy (2002: The importance of professional associations) also notes the uneven approach to the identification and importance of information literacy in global implementation. These views are supported by Dunn's work on "Assessing information literacy skills in the California State University (2002)". Dunn (2002: 27), in assessing students' skills in finding, evaluating and using information, chose to identify students' information skills as competencies rather than literacies stating that the concepts of information competency and literacy are identical and a choice between the two is a matter of preference and fitness of purpose rather than substance. These discrepancies in implementation prompted Bruce to point out that differences experienced in the execution of information literacy programmes tend to bring into question the validity of the concept. She emphatically states that:

> "Clearly, a coherent framework of information literacy is required which reflect changes in thinking about information and literacy and which may better serve the needs of practitioners interested in reflective, problem-based and resource based approaches to teaching and learning" (1997b:12).

Concerns have also been expressed by commentators on the parameters and content of the various frameworks which tend to limit it to individuals in higher institutions of learning. Kapitzke (2003: 57-58) observes that most frameworks are inadequate in terms of their:

- Modernistic presuppositions.
- Lack of politicised criticality.
- Neglect of the implications of new technologies on knowledge and literate work.

Tuominen, Savolainen and Talja (2005: 330, 336) assert that while it seems that assessing competencies, fluencies and personal accomplishments seems to be the major pre-occupation of most educational institutions, the most important aspects of information literacy may be those that cannot be measured at the level of the individual alone as needs for information and information skills are also embedded in work practice and domain-dependent tasks. Marcum accepts this point when he states that:

> "Information literacy as practiced is too limited, too grounded in text, and overly concerned with conveying skills to fully encompass the visual, the interactive and the cultural domains required by the current situation" (2002: 20).

Bruce's (1997b:16) relational model, which aims to describe information literacy as varying conceptions of experiences defined in terms of relations between people and aspects of the world, buttresses this view.

2.4.3 Information literacy and librarianship

Some of the most vicious criticisms of the concept of information literacy have been those directed at the profession of librarianship. Wilder (2005: 13b) views the academic library's approach to information literacy as a wrong response to the assumed threat of the internet. His views, though largely unsubstantiated (Grassian, 2005: Guest opinions), tended to undermine the role of the professional librarian and expressed more confidence in the student's ability to undertake research irrespective of the intermediary role of the librarian. Other critiques view information literacy as librarianship's poor imitation of the concept of computer literacy or a reformulation of the user education programmes of bibliographic instruction and library instruction (McCrank 1991: 38); (McCrank, 1992:489). Foster (1993:346) argues that the failure of librarians to impress the non-library world with previous programmes of bibliographic instruction accounts for the invention of the more grandiose concept of information literacy. In his view, information literacy is largely an exercise in public relations. McCrank (1991: 40) is particularly critical of the seeming commoditification of information when he notes that the abilities associated with the

term as outlined by the American Library Association Presidential Committee Report on Information Literacy, 1989, involves not only finding information but also the ability to interpret and communicate it to others. In his view, information literacy as related to other concepts in librarianship, such as library instruction and bibliographic instruction, is an abstraction lacking a functional working definition. Further in his argument, he identifies problems within the profession which need to be addressed, these include:

- Constant changes of terminologies used to describe library instructional programmes.

- Lack of adequate subject content of librarianship. There is a need to re-structure the curricula of library science from its present generalised form in order to achieve peer-acceptance. In line with this view, Kapitzke (2003:58) had noted earlier that the invocation of the mathematical sciences to describe and identify information literacy frameworks or models was a way of lending credence to the profession of librarianship considered weaker in the hierarchy of the social sciences.

- Most libraries are limited in their services and access to information, the information literacy propaganda may therefore be a hidden agenda to obtain more funding from governments.

- Librarianship, rather than assume paramountcy in the scope of the campaign for information literacy, should include other information agencies and the public media (McCrank, 1992: 488). Webber and Johnston (2003b: 384) have also noted that the majority of information literacy initiatives particularly in the United States are led by librarians with little input from government.

A political dimension to the debate has also been attributed. Bruce (1997b:12-13), in comparing her study with Doyle's, observes that there were political inclinations in both studies, in the sense that while Doyle's study sought to work within the paradigm

acceptable to the curriculum authorities in the United States, hers was also intended to provide an understanding of information literacy, leading into a new educational paradigm in the higher education community. Kapitzke also, while citing Eisenberg and Berkowitz's *Big Six Skills* and the structure of Melvil Dewey's Dewey Decimal Classification System (DDC) as examples, suggests a political agenda to information literacy when she contends that:

> "Information literacy is a product of a particular socio-historical context-indeed, driven largely by the profit motive of the information technology and marketing industries – and not a set of universal internalised skills for 'fact-finding' " (2003: 60).

In summary, the controversies and criticisms that have trailed the evolution of the concept of information literacy are ones that may continue to challenge its implementation especially in higher education until theoreticians and practitioners are able to articulate the parameters of the issues surrounding its conceptualisation (Arp, 1990:49). In the quest for a more preferred terminology, Snavely and Cooper (1997a: 13) concluded that information literacy is more all-embracing as it encompasses such other phrases as empowerment, inquiry, skills and evaluation with a greater focus on the user than the instructor. They cautioned that attempts to re-coin or change the concept with other more preferable terms may also be subject to misinterpretation. They advised that continuous efforts should rather be made towards sustaining the momentum to promote information literacy as a way of lifelong learning. Owusu-Ansah (2003: 220, 226) observes that the controversies and uncertainties surrounding the conceptualisation of information literacy belies a deeper professional dilemma irresolvable by concise definitions and elaborate standards. In his view, these controversies are mainly suggestive of the absence of a clear line of action towards implementing information literacy programmes. As noted by Bruce (1997b: 34), however, there is a tacit acceptance of the concept of information literacy as something that can be learned, that is, a conceptual framework applicable to all educational curricular, a view supported by Webber and Johnston (2003b:385) and Grafstein (2002: 197).

Virkus (2003: Conclusion) asserts that despite the criticisms, a lot has been achieved through information literacy, including:

- A shift towards increasing emphasis on faculty/librarian partnership.
- The implementation of modern Information and Communication Technologies (ICT) in delivering information literacy courses.
- The translation of the Association of College and Research Libraries Competency Standards 2000 in various languages, though not acceptable to some commentators, has provided a good start as a way of setting goals and means of assessing students' information literacy competencies.

2.5 Conclusion

This chapter provides a historical analysis of the definition and concept of information literacy as well as a review of other related concepts. In conclusion, information literacy has been seen by some as a concept beyond the realms of professional librarianship. Bundy in an analysis of information literacy as a global issue strongly points out that:

> "Librarians in raising the issue of information literacy face the reality that it may be perceived and sidelined as a library issue, when it is a profound whole society and global-educational issue. Librarians do, however, have themselves to be on their guard about slipping into equating information literacy and library instruction, or defining it as user education in another guise. Information literacy is an issue for librarians; it is not, however, a library issue. Little will be achieved if librarians attempt, or even suggest ownership of it" (2002: Information literacy).

CHAPTER THREE
INFORMATION LITERACY AND HIGHER EDUCATION

3.1 Introduction

Information literacy as perceived by Hepworth (2000: 32) is a concept that embodies critical thinking processes, interpersonal skills, the use of tools and the learning of data, information and knowledge. Technological advances and the immediacy with which information is exposed preclude the opportunity to critically evaluate accessed information (Cheek & others 1995: 2); institutions of higher learning have of necessity therefore, become viable grounds for developing and instilling critical learning abilities amongst students through information literacy. According to Sun, (2002: 210) with the advent of the information society, the educational system is faced with the challenge of providing basic competencies through which individuals can be incorporated into the society; educational institutions provide a pivot whereby individuals can be inculcated with the necessary competencies needed for the information society. Essentially, as noted by Owusu-Ansah (2004: 4), the emergence of information literacy has decisively meant that colleges and universities have to assume the role of preparing students in the techniques of information use and retrieval.

3.1.1 Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education, 2000: an analysis

Information literacy today plays an important role in the learning process by way of enhancing the curricular and educational mission of higher education (Snavely and Cooper 1997b: 56). The Association of College and Research Libraries (ACRL) Competency Standards of 2000 have provided a baseline for implementing concepts of information literacy into the higher education curriculum (Eisenberg, Lowe & Spitzer, 2004: 130). The ACRL document emphasises the concept of information literacy as the foundation for lifelong learning that is common to all disciplines, environments and all levels of education enabling learners to master content and extend their

investigation, become more self-directed and assume greater control over their own learning. In relation to higher education, the document specifically states that:

> "Developing lifelong learners is central to the mission of higher education institutions. By ensuring individuals have the abilities of reasoning and critical thinking and by helping them to construct a framework for learning how to learn, colleges and universities provide the foundation for growth throughout their careers, as well as in their role as informed citizens and members of communities..." (Association of College and Research Libraries [ACRL] Information Literacy Competency Standards for Higher Education, 2000).

Owusu-Ansah (2001: 287-289), in an analysis of such standards for academic libraries developed by the Association of College and Research Libraries (ACRL) for higher education between 1959-1999, noted critically that earlier standards seemed to have made only casual allusions to issues of inculcating lifelong learning in students' reading habits. Subsequent revised standards (1975-1986), tended to emphasise the custodial role of the library at the expense of its instructional role. In 1986 specifically, though the revised standard specified formal instruction with a need to provide information, these functions were treated more as complementary services of bibliographic instruction rather than as an integral part of user education and in so doing, reflected an abstract and general concept of the library while omitting its active and imperative educational role. A notable shift in approach he noted, however, was the draft standards of 1999 which specifically addressed issues of outcomes and standards. It defined the provision of information and instruction as duties of the library and anticipated that those duties could be accomplished through course-integrated instruction, formal courses and other approaches thus recognising the role of the library. He noted commendably the transformative change ushered in by the recommendations of the ALA Presidential Committee on Information Literacy, 1989, which in its analysis of information literate people concluded that libraries must play a significant role in preparing people to meet the demands of the new information age. Mackey and Jacobson (2005: 140) also noted this landmark achievement when they stated that the recommendations of the Association of College and Research Libraries (ACRL) Presidential Committee on Information Literacy, 1989, created an expansive

framework for understanding information literacy as a process of lifelong learning through its broad scope which seemed to envision an "information-age school" built on the centrality of information literacy and the belief that the goals of information literacy education can be accomplished through collaboration.

3.2 Information Literacy Education

Bibliographic instruction, library instruction and other user education programmes have been considered for-runners to the concept of information literacy. These programmes, though confined to basic information retrieval skills, have provided a context through which information literacy education can be articulated (Bruce 1997b : 43). As noted by Allen (2000: Information literacy and higher education), the contribution of information literacy to issues of lifelong learning in the mission of higher education cannot be over-emphasised as its importance has made it a pre-condition for measuring students' learning outcomes. The transformative power of information literacy as viewed by Bruce (2002: 6) is its intrinsic ability to empower learners with the capacity to engage in self-directed learning outside the walls of the formal educational system. In her view, information literacy education involves bringing life experiences of information use into the classroom and creating opportunities for a critical reflection of the learning process. At the bottom line for creating such opportunities, as noted by Rockman (2002: 187), is the need for skill competence among graduates which has necessitated higher education institutions to re-structure their programmes of curricula in order to meet societal needs. Ratcliff also, as cited by Rockman (2002: 187), is of the view that re-structuring the learning process is at the centre of every educational enterprise providing a basis for renewed focus on quality and coherence in curricula courses. Re-structuring the curricula, he argues, enables the student to develop an attitude of critical analysis, evaluation of sources of information and efficient communication skills thereby developing information competence. Some of the efforts made towards such re-structuring processes include the integration of information literacy competencies into the curricula of academic programmes by some higher education institutions as part of the requirements for graduation (Wikipedia Contributors, 2006b: Information literacy).

Bruce (1997a: 48) noted that though approaches to information literacy may be different, information literacy education is viewed as a conceptual framework applicable to all educational programmes and as a discipline in its own right. She contends that many of the difficulties experienced in the execution of information literacy education arise from the too often complicated descriptions of such programmes in which educators tend to incorporate all kinds of information systems and resources into the learning experience. Bruce (1997a:7-10), also in an analysis of various studies on information literacy education, noted that information literacy is important to the curriculum of higher education in terms of the content of learning about the concept and the implementation of teaching and learning strategies which enhance information literacy; she outlines the following as some of the challenges faced in higher education towards the implementation of information literacy:

- The need to graduate students who are information literate which is further compounded by the need to provide access to the increasing number and forms of information sources to staff and students.
- The need to provide opportunities to both staff and students in the efficient use of information.

She argues that it is essential that at each stage, whether undergraduate or postgraduate, students are confronted with programmes of information literacy that are relative to the challenges faced with the information literacy experience; for example, while the challenges at the postgraduate level may be to foster information literacy experience in a research context, the information literacy experience at the undergraduate level must be structured in order to enable students become familiar with the world of information as related to their area of discipline. In each case essentially, the challenge is to ensure that experiences gained in the academic environment are transferable to professional and other contexts.

Moore (2002: 8), raises an issue of great concern in the area of information literacy education when she notes that the development of information literacy in schools is always predicated on the assumption that basic educational facilities already exist and that teachers (and librarians) are themselves information literate, that information-processing models or approaches inform their teaching and that they apply higher order thinking skills when undertaking complex tasks, a point supported by Henri, as

cited by Moore (2002: 8), who in a study investigated information literacy among practicing teachers and teacher-librarians in Australia, concluded that they were not as proficient in information literacy skills as was expected. To this end, Moore (2002:10) suggests the creation of a professional development resource centre on information literacy for all educators, stressing that professional development concerning information literacy as a concept and as a framework for teaching and personal learning is an issue for tertiary educators.

3.2.1 Information Literacy Instruction

The challenges faced by students in the efficient use of resources have necessitated the provision of information literacy instruction by academic libraries (Kasowitz-Scheer & Pasqualoni, 2003: Introduction). Moore (2002: 1), in analysing the current information environment, noted that technological advances have necessitated a reconsideration of the knowledge skills and values needed for education and successful living. She argued that educators are today faced with the challenge of developing the information skills of students especially in the area of locating and evaluating relevant and objective information sources, this challenge has made information literacy central to the goals of higher education.

Kasowitz-Scheer and Pasqualoni, (2003: Introduction) observed that information literacy instruction is the academic library's response to the problem of information explosion as a challenge faced by students in the effective use of information. In an academic setting, information literacy instruction involves a variety of instructional approaches, such as course-related library instruction sessions, course-integrated projects, online tutorials and stand-alone courses (Eisenberg, Lowe & Spitzer, 2004: 133). It requires a shift in focus from teaching specific information resources to a set of critical thinking skills necessary for the use of information. It is often designed to meet a specific set of needs which may be peculiar to an institution. (Kasowitz-Scheer & Pasqualoni, 2003: Introduction). Implementing a particular approach or programme depends on many institutional and situational factors which may include purpose, funding, audience and staffing (Grassian & Kaplowitz, 2001: 131). The Association of College and Research Libraries (ACRL) Guidelines for Instruction Programs in

Academic Libraries released in 2003 provides a model for implementing information literacy programmes by academic libraries. The document, while emphasising the need for libraries to have clearly articulated sets of learning outcomes, also suggests that the instructional content of information literacy programmes should be based on the needs of the learning community. The following are some of the modes of instruction outlined:

- Individualised instruction.
- Electronic or print instruction aids.
- Group/classroom instruction.
- Web tutorial or web-based instruction.
- Asynchronous modes of instruction (e-mail, bulletin boards).
- Synchronous modes – chat, software, video conferencing.
- Hybrid or distributed learning or distance learning, employing combinations of previous methods, and so on.

It emphasises that the mode selected should be consistent with the content and goals of sound information literacy instruction employing, where necessary, active learning strategies and techniques that require learners to develop critical thinking skills in concert with information literacy skills.

Bruce (2002: 2, 3), in examining the character of information literacy as is currently practised in educational settings, notes particularly the importance of the models of information literacy instruction influenced by contributions by Eisenberg and Berkowitz's *Big six skills* (1990), Doyle's *Attributes of an information literate person* (1992), Bruce's *Seven faces of information literacy* (1997b), The Standards for Students Learning (ALA & AECT, 1998) and the American Library Association / Association of College and Research Libraries' Information Literacy Competency Standards for Higher Education, 2000. These models and standards in their respective ways represent forms or ways that can be used for communicating the character of information literacy for curriculum design and evaluation, staff development and for assessing students; together they reveal the richness of information literacy experiences as understood by educators in the execution of information literacy

programmes. Bruce argues further that information literacy from these model descriptions are clearly part of the fabric of learning and should therefore be woven into the learning process in order for students to learn from the available resources; to this end, localised models of information literacy have variously been developed to meet specific needs in higher education institutions. Moore (2002: 2) also agrees with this view in asserting that these models have helped in providing descriptors to guide curriculum design and evaluation of student learning and have been used to describe information problem-solving enquiry, discovery and problem-based learning activities; these have provided educators with a framework within which specific skills can be targeted and their co-ordination fostered. She identifies some pedagogical approaches to information literacy instruction which have been expressed in higher education through these models, these include:

- Resource-based learning – This emphasises the enquiry approach to learning, it involves the use of a variety of sources like newspapers, websites, multimedia, textbooks in teaching (Eisenberg, Lowe & Spitzer, 2004: 96). Bruce (1997a: 53), affirms the importance of this approach, citing the inter-disciplinary nature of information literacy and its dependence on access to a wide range of resources, which fosters the ability of the student in identifying relevant sources of information.

- Problem-based learning involves posing real problems reflective of an area under study. It emphasises critical thinking linking old knowledge to new knowledge and its applicability (Eisenberg, Lowe & Spitzer, 2004: 99).

- Web-based learning involves forming partnerships between academic institutions and business organisations in teaching (Eisenberg, Lowe & Spitzer, 2004: 99).

Moore (2002: 6), while also citing Eisenberg and Berkowitz's *Big six skills,* argues that information literacy as a pedagogical tool provides a powerful framework for integrating learning skills and strategies across the curriculum as well as enabling

educators to harness the potential of Information and Communication Technology (ICT). Other models noted for their excellence in developing the information literacy curriculum in higher education include Mann's library model, the Taxonomic approach and the Bibliographic model statement of objectives (Bruce 1997b: 49). The bibliographic model statement of objectives specifically, as noted by Kasowitz-Scheer and Pasqualoni, (2003: Best practices), offers one of the most complete set of best practice characteristics; it emphasises the importance of integrating information literacy instruction throughout a students' entire academic career and offers advice on using multiple methods of assessment for evaluating information literacy instruction programmes. It also provides a detailed outline of recommended components for excellent information literacy planning, collaborative information literacy instruction pedagogy, outreach to academic departments and other efforts necessary for creating successful information literacy instruction outcomes. Webber and Johnston (2003b:394) argued that models, frameworks or standards require an effective basis for a curriculum as a platform for developing critical thinking and reflective practice. They observed that there seems to be a general agreement in most frameworks, models and standards in terms of descriptions and expected outcomes which significantly indicate that information literacy must be addressed by a learning and teaching strategy which incorporates evaluation, comparison, reflection and exchange of views.

Educational reform and re-structuring of the learning process forms an important premise for the success of information literacy in higher education; the internationally recognised standards and learning outcomes developed by the information literacy movement has helped to place the concept of information literacy on the pedestal of the goals of higher education institutions (Dakshinamurti & Horne, 2006: Abstract).

3.3 Information literacy and the undergraduate curriculum

Higher education, particularly undergraduate teaching, has been the subject of critical scrutiny; of particular interest have been issues of curriculum design, critical thinking and lifelong learning in the educational experience (McFadden & Hostetler, 1995: 221). Positions in the debate flow from the understanding that the rapid proliferation

of a variety of complex and sophisticated electronic retrieval systems, including the Online Public Access Catalogue (OPAC), raises important questions about the intelligibility and utility of these resources to undergraduate students. The need to prepare students for the information age has increased concerns among academic librarians of the necessity to integrate information literacy skills into the undergraduate curriculum in order to equip them with the needed conceptual, intellectual and educational framework with which to interpret and understand various information sources (Rader, 1995: 271). Pask and Snow (1995: 306) also affirm this view when they state that the difficulties of quantity and the varying qualities of information, together with the problems of connecting and finding information presents a daunting challenge to most undergraduate students; therefore assisting student learning in the use of internet and other resources is a major priority of academic libraries. In higher education particularly, the need has been stressed to re-align concerns about undergraduate education with regards to the role of the library in reference services as a vital component of research (McFadden & Hostetler, 1995: 222-224).

3.3.1 The role of the academic library in curriculum development

A curriculum has no general definition but is believed by some to comprise all planned/unplanned experiences that a learner has in school in order to reach the institutions' broad goals and objectives: such experiences may consist of a pattern of courses, guidance, specific instruction, physical activities, testing and evaluation, modes of instruction and so on. Most curricula, as outlined by the issuing authorities, express the goals, objectives, instructional and learning theories, criteria for evaluation and the educational philosophy of the institution (Dejnozka and Kapel, 1991: 151). Page, Thomas and Marshall in the *International dictionary of education* define a curriculum as:

> "An organised course of study undertaken by a student in or under the aegis of a college or other institute of learning" (1977: 95).

Regan, as cited by Rader defines a curriculum as:

> "The structure of the educational process and the framework for planning educational experience" (1995: 271).

Academic librarians, Rader (1995: 271, 274) observes, have always expressed concern about students information skills; major hindrances have often been those of gaining support of faculty and taking an active part in issues of curriculum development. She argued that studies have shown that courses, not students, are the determining factors in the degree to which libraries can contribute to academic programmes, particularly curriculum development; constant changes in the curriculum and time constraints within a particular course have often eliminated the integration of information research modules taught by librarians.

The increasing importance of the need to use information for problem-solving draws upon the professional strength of the librarian as the information specialist to teach students the need to develop critical thinking skills for accessing information (Blandy & Libutti, 1995: 282). The concepts behind bibliographic instruction, user education and now information literacy have always been fundamental tools for teaching conceptual models to enable researchers to formulate strategies for information handling (MacAdam & Kemp, 1989: 236). Pask and Snow (1995: 306) noted that despite efforts towards user instruction, quite a number of undergraduate students are yet to learn the intricacies of keyword searching, Boolean logic or understand the reasons for evaluating accessed information. They emphasise that it is essential for undergraduate students to have a clear understanding of the broad context of such information sources as the internet and its relationship to other electronic systems and be able to apply acquired skills to research. A good instruction programme usually would teach the patron the underlying logic or the basic techniques of information search in order to facilitate and encourage independence (Kohl, 1995: 426-427). Bibliographic instruction, according to Bodi (1988: 150), provides the student with the necessary skills to be able to formulate a research problem, translate this into basic inquiry that can be investigated, establish a standard and finally, be able to articulate a defence for the entire character of the research process. This, she argues, promotes in the student an attitude of careful evaluation, analysis, probing and critical assessment

of accessed information, skills which are vital for self-directed and lifelong learning. Skilled and inquisitive use of the library helps to enrich the academic life of the student by providing a useful instrument for developing the necessary information handling skills (MacAdam & Kemp, 1989: 234). McFadden and Hostetler (1995: 221) argue further that the library, by virtue of its physical and conceptual organisation, arrangement of resources and the way in which intellectual resources interact with each other, provides a supportive role to the educational development of the student.

Commentators on higher education have noted that there has been a growing commitment among educators to establish a core curriculum at university or college level as a way of facilitating the imparting of basic knowledge and skills (MacAdam & Kemp, 1989: 233). Rader (1995: 272) opines that the Presidential Committee Report on Information Literacy, 1989, provided an excellent rationale for academic librarians to integrate information literacy programmes into the undergraduate curriculum. She observes however, that despite efforts aimed at mandating information skills instruction and measurable outcomes among K-12 students particularly in the United States, most higher education institutions are yet to embrace the concepts integration due to such factors as faculty control of the curriculum, individuality and autonomy of each institution regarding curriculum development, educational outcomes and issues on the status of librarians within the higher education set up. Kohl (1995: 427) observed that the instructional programmes of the academic library often tended to have too much emphasis on individual courses for particular situations and not enough focus on the development of a logical focused progression of instruction in the use of modern information tools, that is, a curriculum; in other words, the totality of an academic library's services and instructional programmes can be viewed in themselves as a curriculum. This view, as supported by McFadden and Hostetler (1995: 223) has clear implications for the role of academic librarians in the institutional definition and assessment of educational outcomes. Further, in his argument, Kohl (1995: 42) maintains that developing such a curriculum will involve the incorporation of at least three elements:

- The logical progressive development of skills and understanding in the use of information tools.

- The appropriate relationship and counterpoint to the subject content of the students' educational development provided by the traditional professoriate.
- The acknowledgement of the diverse needs and strengths of a very complex student population.

The fundamental goal of the academic library remains the task of educating its users; this goal as observed by some commentators, is better executed through information literacy which is much broader than the traditional understanding of bibliographic instruction (McFadden & Hostetler, 1995: 223). Farber, as cited by McFadden and Hostetler (1995: 223), noted that information literacy provides the student a clarification of concept, a sharper understanding of distinctions, a more or less well-defined strategy for proceeding with the investigation and an appreciation of available information resources. Owusu-Ansah also comments that the distinctive feature of information literacy as a more ambitious instructional engagement than bibliographic instruction is that it goes beyond teaching mainly retrieval skills towards the total research environment in the process of information search. He argues that:

> "Information literacy places information itself into context by addressing social, economic and legal as well as other concepts related to such information" (2004: 4).

3.3.2 Information literacy, critical thinking and the undergraduate curriculum

Issues of critical thinking as a teaching strategy and a desired outcome of bibliographic instruction and information literacy has been the focus of considerable discussion and programme development within academic libraries in recent years (MacAdam, 1995: 247). Gibson, (1989: 308) stated that a revitalised educational curriculum needs a critical thinking component as this enables the student to learn to see connections between disciplines, focus on significant questions, sort out the genuine from the spurious and examine his or her own assumptions and limitations. Similarly, MacAdam and Kemp (1989: 234, 244), while noting that there is no single definition of what generally may constitute critical thinking, observed that some of the components involved in critical thinking include the ability to formulate questions, reason logically, analyze and evaluate information effectively and solve problems;

critical thinking is a transferable skill that is applicable to various situations. They argued further that because critical thinking issues are often likely to dominate issues of secondary and post-secondary education, the role of academic librarians as designers of user instruction programmes is to support collaborative efforts on issues of curriculum development and keep abreast of research and emerging models in this area. Bodi (1988: 151) also supports this view when she states that a critical issue in bibliographic instruction is the involvement of the academic library in encouraging and promoting curriculum activities executed in the classroom in the area of supporting and reinforcing the development of critical thinking abilities amongst students.

Issues in information literacy have often emphasised the development of critical thinking ability as an essential skill for the undergraduate student. Critical thinking, according to Bodi (1988: 151) is a universal skill that must be related to subject knowledge or taught as an integral part of a subject. Grafstein (2002: 197), in her study of a disciplined-based approach to information literacy, explores the relationship between teaching information literacy skills and principles as a process that applies across the curriculum and teaching them within the paradigms of disciplinary research. She maintains that information literacy outside a discipline lacks the chance of attracting a students' interest as it is often not connected to assignments or progression in learning the research skill required in a discipline. Stubbings and Franklin (2006: Keywords) noted also that in encouraging the development of higher order thinking skills such as critical thinking and evaluation skills and not just the mechanics of searching for information, information literacy courses help to enhance the experience of the student in the area of lifelong learning. They propose similarly that the relevance of information literacy to the student is best exemplified through subject specific course, or integrated into the curriculum.

3.3.3 Information literacy, plagiarism and the undergraduate curriculum

Another important area of concern in the development of the undergraduate curriculum in higher education is the issue of plagiarism. The Association of College and Research Libraries (ACRL) Information Literacy Competency Standards (2000), Standard Five, categorically states the importance of the information literate students' ability to understand the ethical, legal and socio-economic issues surrounding the use of accessed information and to demonstrate an understanding of intellectual property, copyright and fair use of information sources in terms of avoidance of plagiarism, acknowledging use of information sources and selecting an appropriate style for documenting and citing information sources. Lampert (2004: 347) views plagiarism as the arch-nemesis of academic integrity; while noting that a great deal of research has been conducted in higher education on the issue of academic dishonesty, she observed that issues of plagiarism as handled by universities and colleges tend to focus more on ways of catching offenders rather than teaching them to integrate information sources. Plagiarism specifically points to an area of need for instruction. In teaching the concepts of bibliography in bibliographic instruction for example, the student is taught that the idea of knowledge does not generally advance in quantum leaps but rather bibliography is an opportunity to instil intellectual courage and confidence in the student for original thought (MacAdam & Kemp, 1989: 234). Owusu-Ansah also supports this view when he argues that:

> "Information literacy ventures into conceptual issues related to the very generation of information, the dynamics of its organisation and the implications of those processes for access, retrieval and use. It aims at delving into issues of copyright, intellectual property and plagiarism" (2004: 5).

Boden and Holloway (2005: Introduction) argued that studies have shown that pre-meditated plagiarism is rare, misunderstandings about how to handle information are often the cause. Brine and Stubbings as cited by Stubbings and Franklin (2006: Plagiarism and prevention strategies) in their study of student understanding of plagiarism and their approach to academic writing, revealed that students plagiarise

due to poor study skills and lack of understanding as to what really constitutes plagiarism. Lampert (2004: 348), also, while noting that some students plagiarise in a deliberate attempt to circumvent the research process, adds that most undergraduate students do not always have the skills to distinguish aspects of plagiarism such as incorrect instances of paraphrasing, modification of text, quotations or citations, hence the need for instruction through information literacy as a preventive measure rather than placing greater emphasis on detection.

Boden and Holloway (2005: Introduction) are of the view that an effective anti-plagiarism programme needs to address its main causes through teaching students about information management. They contend that including anti-plagiarism teachings as a key element in a linear information literacy teaching programme and embedding it within an academic course empowers students to become independent learners, value the quality of information resource, the effectiveness of their search strategies and the importance of good citation practices throughout the production of work. Issues in plagiarism bring into question the role of academic librarians and faculty in implementing methods for educating undergraduate students on how to cite outside information in the course of research (Lampert, 2004: 347). Lampert (2004: 348) argues that collaborative approaches between librarians and faculty should focus more on disciplined-based instructional innovations as a way of capturing students' attention about required citation styles and the ethics of information in various disciplines. She noted also that variances in faculty definitions and perceptions of what constitutes academic dishonesty often lead to ambiguity in dealing with issues of plagiarism.

It is imperative that academic institutions emphasise the importance of teaching students the ability to determine the accuracy and adequacy of information sources as a way of developing critical, evaluative and analytical thinking skills (Breivik & Gee, 1989: 24). Allen (2000: Information literacy and higher education) noted that the importance of information literacy has made it a necessary pre-condition for measuring students' outcome in certain regional and discipline-based accreditation associations. Accreditation involves a process of external quality review used by higher education institutions to scrutinize colleges, universities and educational programmes as a way of measuring or testing quality assurance and improvement

(Story-Huffman, 2006: Introduction). The Middle States Commission on Higher Education in the United States for example, in recognition of the importance of information literacy, has introduced into its standards for accreditation an approach that effectively treats information literacy as a meta-cognitive learning outcome and has also gone further to declare information literacy as a necessary requirement for undergraduate education (Ratteray, 2002: 368) (Owusu-Ansah, 2004: 4). Mandates by such regional accreditation agencies, as noted by Thompson (2002: 218), has necessitated a shift in the established library instruction paradigm in many institutions in which librarians and faculty now collaborate in the teaching and learning process of information literacy skills thereby systematically embedding it into the syllabi and curricula.

The advent of Information and Communication Technology (ICT) has necessitated that higher education institutions develop a consistent educational philosophy needed for re-structuring the learning process; stakeholders in the sector must endeavour to encourage academic librarians and faculty to move beyond the old approach to become facilitators of learning in assisting undergraduate students to make use of the wide range of information sources in the library (Breivik & Gee, 1989: 26, 37).

3.4 Challenges of integration

The importance of information literacy within the context of information explosion is increasingly gaining attention and in higher education institutions, information literacy forms an important part of the fabric of learning and is central to the strategic goal of developing lifelong learning skills in students especially in their later careers and in the larger goal of ensuring an informed citizenry. Information literacy experiences in various countries reflect the challenges faced by educators, faculty and academic librarians in bringing information literacy practices to the curriculum (Bruce 2002: Information literacy- the foundation for learning in our contemporary environment of continuous technological change). Karelse, as cited by Bruce (2002: INFOLIT – a regional approach to promoting information literacy education), observed that often, the way in which a curriculum is designed reflects largely the response of higher education institutions in addressing problems of information

literacy education. This section will analyse the operational context of information literacy in various countries as well as the challenges faced in integrating information literacy in the different subject disciplines.

3.4.1 United States

The momentum for information literacy activities in the United States, as enumerated earlier in the literature review began with the recommendation of the American Library Association Presidential Committee on Information Literacy, 1989. In a review of outcomes of these recommendations, the Association of College and Research Libraries outlines the following as a summary of progress made as result of the Report.

- Firstly, the recommendation on the need to reconsider ways in which information can be institutionally structured for information access has led to increasing programmes of information literacy that empower peoples skills in finding, evaluating and utilising information more effectively leading to the promotion of information literacy as a priority for all areas of education and the workforce.

- The Report also fostered the development of research and demonstration projects related to information use which were undertaken to measure the extent of information literacy integration in post-secondary institutions specifically colleges and universities. This has provided insight into the learning and assessment needs of various institutions in the United States.

- The National Forum on Information Literacy was established in 1989 with an initial membership of sixty-five national organisations representative of government, educational institutions and the business class under the leadership of the American Library Association. This forum has undertaken various projects globally with the aim of meeting the challenges of the information age. Regional forums have also emerged which have served to

ensure that evaluation and assessment outcomes of information literacy align with set standards. Examples of such include the Commission on Higher Education (CHE) of the Middle States Association of Colleges and Schools, the American Association of Higher Education (AAHE), the National Association of Secondary School Principals (NAPSS), and so on.

- The Association of College and Research Libraries also acknowledges efforts made by the ERIC Clearinghouse on Information Technology which has established a website called Infolit.org with "information literacy" as a specific search term and also showcases scenarios of information literacy at school and college levels (American Library Association Presidential Committee on Information Literacy *Final report*, 1989).

Progress has also been recorded in various higher education institutions across the various states of the United States. Most institutions have adopted the principle of integrating information literacy in their own locally written curriculum. In Utah for example, information literacy has been implemented through the Information Literacy Across the Curriculum Project, a project designed to train teams of educators, principals, school library media specialists and classroom teachers in writing and teaching thematic units of integrated curriculum. Kathleen Dunn's study also on "Assessing information literacy skills in the California State University a progress report" provides insight into an innovative multi-year assessment project of students' information literacy skills in the University. The project essentially was designed to provide students, faculty and staff with the necessary tools to compete, produce and prosper in a global knowledge-based economy (2002: 26).

Challenges

Despite these achievements however, the report noted the need for a national re-evaluation of current information literacy practices which tend to emphasise enormous investments in technology i.e. computers and networks which, they argued, are not sufficient to enable students to cope with the challenges of the information age without the necessary information skills. Further, they contend that there is a need to:

- Promote information literacy as a means of empowering individuals and enhancing the educational potential and economic goals of communities in the United States.
- Encourage and support the activities of accrediting agencies.
- Encourage the integration of information literacy throughout the curriculum of higher education institutions.
- Encourage collaborative efforts between teachers and librarians in information literacy.
- Identify ways to illustrate to business leaders of the benefits of fostering an information literate workforce.
- Promote research and demonstration projects related to information literacy and its use especially as regards benchmarking information literacy abilities and progress.
- Measure the effectiveness of information literacy programmes on individual's performance.
- Encourage productivity in the workplace through information literacy.

3.4.2 United Kingdom

Information literacy activities in the United Kingdom gained prominence with the establishment of the Seven Pillars of Information Skills developed by SCONUL in 1998. Webber and Johnston (2003c: Definition of information literacy), in a critical analysis of progress so far made observed that in comparison with the United States, Australia and Canada, the United Kingdom has made limited progress in developing information literacy as a key discipline especially in terms of having a unifying information literacy agency. In their view, conceptions of information literacy by the government of the United Kingdom seems to be predominantly focused on Information and Communication Technology (ICT) rather than information literacy (Webber & Johnston, 2003c: Who is concerned with information literacy?). They argued that even though a number of information literacy initiatives have been launched by the government, the continuing emphasis on ICT skills, such as internet searching skills, tends to blur the importance of such initiatives. In addition, the lack of an overall government strategy at both national and local levels has resulted in a

lack of clear guidance on the implementation of information literacy practices, duplication of efforts and waste of resources.

In higher and further education in the United Kingdom, they noted that though the academic library has a model i.e. the Seven Pillars of Information Skills, which has provided a framework for a variety of information literacy experiences and has also been used as a benchmark for assessing the information literacy skills of students, it is yet to establish a defining model of information literacy for the United Kingdom (Webber & Johnston, 2003c: Higher & further education). In the area of curriculum integration, they observed that even though progress may have been made in some institutions, problems of information awareness and skill may only have been developed as by-products of activities and tasks such as project work, essays, dissertations and other traditional research-based activities rather than information literacy experiences (Webber & Johnston, 2003c: Subject curricula).

However, examples of successful attempts at curriculum integration in the United Kingdom include studies by Jackie Davies and Cathie Jackson (2005), "Information literacy in the law curriculum: experiences from Cardiff". The study gives an insight to challenges faced in integrating the concept of information literacy to legal research, information technology and other legal skills training into a coherent module (Davies & Jackson, 2005). Susie Andretta's work on a credit bearing class of undergraduate law class provides a detailed explanation of the development of information literacy at the University of North London (Andretta, 2001). Also, projects conducted by the Joint Information Systems Committee (JISC) which undertook a periodic survey of Electronic Information Systems (EIS) in higher education in the United Kingdom, has contributed immensely to information literacy education (Armstrong and others, 2000). Findings from this project have aided in bridging the gap between perceptions and reality of user behaviour in higher education institutions in the United Kingdom. The Joint Information Systems Committee (JISC) has also funded the development of networks and networked information in higher education and other research activities into the way in which electronic information is used (Webber & Johnston, 2003c: Technological/digital library interpretations). Another successful attempt was also recorded at the Open University (OU) when a credit bearing information skills module called MOSAIC was lunched with the assistance of SCONUL in 2002; the

course was aimed at improving student study skills. At the University of Strathclyde, an attempt at developing a credit-bearing information literacy class is reported in the study undertaken by Webber and Johnston (1999 and 2003b). The study revealed that students readily identified information-seeking sources in their conception of information literacy. However, from a pedagogic perspective, Webber and Johnston (2003b: 393) are of the opinion that information literacy is best viewed as a discipline in its own right because subject integration denies the student the opportunity to develop a more coherent conception of information literacy.

In their analysis, Webber and Johnston (2003c: The library and information profession) also acknowledge contributions made by the Library and Information Science profession specifically the Charted Institute of Library and Information Professionals (CILIP), in promoting information literacy education. CILIP has passively included information literacy in its accreditation checklist in librarianship and information management courses. They argued however, that, unlike the United States and Australia, CILIP has yet to establish a national forum for information literacy in the United Kingdom.

Challenges

From an educational policy perspective, Webber and Johnston (2003c: Schools) opine that information literacy in the United Kingdom has had less exposure compared to the United States; more emphasis seems to be placed on developing transferable skills and Information and Communication Technology (ICT) skills than information literacy. Also, standards of information literacy are still yet to be incorporated into the National Curriculum [as at 2003]. There is, however, evidence within schools of teachers and librarians taking the initiative to individually integrate information literacy into their classes and information sessions. Emphasis seems also to be gradually shifting from teaching to learning with a lot of interest in problem-based learning thereby encouraging research and problem-solving skills amongst students. Worthy of note also is the effort made towards enforcing quality assurance measures in the educational sector in the United Kingdom, thereby ensuring quality assessment and enforcement of standards.

3.4.3 Australia

According to Hughes and others (2005: 2), the concept of information literacy in Australia has developed gradually, in line with the increasing recognition of its social and educational relevance. User education services such as bibliographic instruction, library instruction and other user instructional procedures gradually shifted to more critical approaches to information use. Interest in the need for information literacy in Australia was influenced by efforts in the United States and other emerging research works and theoretical understandings of the concept: for example, Bruce's *Seven faces of information literacy* (1997a) and Doyle's *Attributes of an information literate person* (1992). Also, the creation of the Australian and New Zealand Framework for Information Literacy (2004), modelled after the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education (2000), helped provide a cohesive framework for embedding information literacy in the curriculum of higher education. These advances have resulted in a gradual shift to a holistic approach to information literacy in higher education whilst also encouraging the participation of academic librarians in curriculum design (Hughes and others, 2005: 3-4).

There has also been a growing awareness of the concept of information literacy in Australia. Bundy (1998: A strategic response) noted that Australia has contributed regionally and globally in promoting information literacy by organising and hosting national and international conferences. Advocacy initiatives have been undertaken by organisations like the Australian and New Zealand Institute of Information Literacy (ANZIIL), the Australian Library and Information Association (ALIA), and the Australian School Library Association (ASLA). Hughes and others (2005: 4) noted that though the nature of information literacy research in Australia within the period 2001-2005 has expanded beyond higher education to include workplace, community and other cultural domains, much of information literacy research is still concentrated in the higher education sector with research studies focused on information literacy experiences of university students all aimed at the development and evaluation of higher education information literacy programmes. An example of such studies includes Cuffe's and Bruce's study of information and information technology use of

law students (1999). This study provided insights into the need for the development of a curriculum model that inculcates skills training and problem-solving skills in the curricula of legal research training and legal education (Hughes, and others, 2005: 6, 11).

Challenges

Bundy (1998: Conclusion) observes that though the response of Australian universities to information literacy and their potential has generally been positive in supporting the goal of information literacy and lifelong learning, the challenge facing Australian university librarians is to contribute in persuading their universities and government to a faster educational mind-set shift which will bring recognition to the issue of information literacy. Other challenges outlined by Hughes and others (2005:11) include:

- Developing a firmer, more consolidated research agenda that takes account of previous and current national and international initiatives.

- Fostering greater collaboration between researchers across national and international boundaries.

- Seeking and optimising funded research opportunities whilst retaining academic integrity and commitment to altruistic research methods outside the funding framework and including support for the work of research students.

3.4.4 Denmark

Skov and Skaerbak (2003: Introduction) reported that information literacy was introduced in Denmark in 1998 by Elizabeth Arkin. As with other countries, the major impetus for its introduction was the growth of information resources which necessitated increased efforts towards user education programmes. User education programmes in most higher education institutions in Denmark involved stand-alone, non credit-bearing courses which are mainly a combination of general courses such as

information retrieval, advanced courses for researchers and other ad-hoc courses. The challenge posed by the need for independent study, information-seeking and problem-solving skills among graduate students led to the launching of project-based and problem-based learning in Denmark.

In their analysis, Skov and Skaerbak (2003: Integrating information literacy into the curriculum) observed that there seems to be a lack of co-ordination in the approaches to information literacy education in Denmark as implementation has often been based on the needs of the institution concerned and on the interest and dedication of its library staff. As a result, attempts at integration have not been very successful especially in the area of forging alliances between library and faculty staff which has limited efforts towards collaboration. The reluctance by teaching faculty to see librarians as partners has not encouraged integration within a subject context. Similarly, the refusal by parent institutions to provide rewards and incentives towards efforts of integration has done little to encourage attempts by library staff. They noted also that although the principal working method in most Danish institutions is problem-based learning, some institutions still employ more traditional teaching methods which does not encourage independent learning among students (Skov & Skaerbak, 2003: Integrating information literacy into the curriculum).

3.4.5 Finland

Finland's approach to information literacy education has been aimed at making decision makers at all levels aware of the importance and significance of the concept of information literacy and its related skills (Juntunen, and others, 2006: Introduction). Judging by the support of the Ministry of Education in Finland, Juntunen and others (2006: Introduction) observed that libraries in Finland have been successful in their efforts towards integrating information literacy. The Ministry of Education has acknowledged the importance of information literacy as a key qualification for modern citizenship in an information based society. This is shown by its support for the national project as it acts as a network for universities and supports the work being done in university libraries by developing tools for evaluating information literacy practices. Also with funding from the Ministry of Education, university libraries in Finland were able to launch a joint project in 2004 aimed at

integrating information literacy within academic studies and creating a network among universities (Juntunen, and others, 2006: Introduction).

However, they also note that problems of heterogeneity of information literacy education and implementation remain a challenge especially in cases where library staff are not given the opportunity to contribute to curriculum development, thereby limiting their impact on integration processes. In their view, even though information literacy has frequently featured in the stated strategies of university libraries in practice, there is still a distinct need to define common standards in order to encourage efforts towards integration (Juntunen, and others, 2006: Discussion & conclusion).

3.4.6 Canada

Whitehead and Quinlan (2002: 13) report that information literacy initiatives in Canada have remained at the peripheral levels of elementary to post secondary education as efforts often seem to be tied to issues of access to education and information technology. They argued that despite efforts towards promoting information literacy in Canadian higher institutions, the lack of a national education policy still constitutes a great challenge to attempts at integration. Secondly, they noted that information literacy programmes are developed within the context of library user education programmes rather than the general curriculum of education (Whitehead & Quinlan, 2002: 14). In addition, assessment of best practices in information literacy, particularly in post-secondary education, has been based mainly on anecdotal evidence rather than measures of achievement over time (Whitehead & Quinlan, 2002: 12).

Mittermeyer (2005: 210) conducted a province-wide longitudinal study between 2001-2003 in fifteen universities in Quebec with the aim of gathering research data on the information research skills of undergraduate students entering universities in Quebec in order to:

- Enable librarians to tailor their services.
- Provide university library administrations with reliable data to support their recommendation for integration of information literacy into the university curriculum.

The research was a collaborative work comprising of a team of 1 researcher, and a group of 11 librarians who are specialists in information literacy – the library directors and the registrars' offices of all 15 Quebec universities and CREPUQ staff. The objective of the study was to verify whether librarians observations on a day-to-day basis and their perceptions of what seemed to be a low level of knowledge of the information seeking process among incoming undergraduate students was valid. Outcomes of the research led to many positive responses to information literacy initiatives in a number of universities in Quebec and contributed to activate interest among universities in Canada. Administrators and academics are acknowledging and recognising the need to develop the information skills of undergraduate students so that they can efficiently perform in the knowledge society (Mittermeyer, 2005: 207-224).

3.4.7 China

The practice of information literacy in China was offered in the form of user education programme called Literature Retrieval from 1984 onwards. The aim of the programme was basically to inculcate in students a mastery of the preliminary methods of computer-based retrieval systems which include how to select databases, search strategies and how to analyse search results. The course was offered in two models across all universities, taught either by the department of library and information studies or by staff of the university library. The course was offered either as compulsory or optional depending on the requirements of the institution concerned (Hongxia, 2004: 5).Within the context of the Chinese educational system and the library and information profession, information literacy is defined as:

> "A synthesis of a variety of characters that an individual should acquire in [an] information society. It consists of information consciousness, information knowledge, information concept, information creation,

information technology, information ethics and use, information seeking and use, etc." (Hongxia, 2004: 4).

Hongxia (2004: 7) reports that a milestone achievement of information literacy research in China was the event of the National Conference of College and University Information Literacy Education Research in Heilongjiang University in 2002. Proposals were put forward during the conference all of which were aimed at making determined efforts towards promoting information literacy activities in Chinese higher education. These include among other things:

- Consolidating existing achievements.
- Deepening research in information literacy education.
- Collaborating in the compilation of teaching materials.
- Staff training and development.
- Also as part of the outcome of this conference, the Chinese Ministry of Education issued the new "Library Regulation for Universal Higher Schools". It was in this document that information literacy was first put forward as one of the college and university library's five core institutional goals.

Challenges

Hongxia, (2004: 9) notes that not much has been done in the area of theory, modelling, standards and assessment of information literacy activities in China. This view is supported by Sun (2002: 214-216), who contends that there is a need to consult existing international standards and formulate comparable Chinese standards of information literacy in order to create and evaluate a system based on Chinese characteristics of information literacy.

- Secondly, Hongxia (2004: 9) notes that there is still no nationally agreed syllabus on information literacy education and no special portal website has been established for the education and certification of information literacy.
- Materials for information literacy education are over-utilised in most schools resulting in poor outcomes.

- There is the need to deepen and intensify research activities in information literacy as most are uncoordinated unlike the case of the United States and United Kingdom.

- Lack of a national policy. Even though there is a unique regulation for college and university libraries to abide by, enforcing the regulation has been a problem due to lack of a strong policy support at the national level. He argued that in the aspect of compulsory integration, student ignorance of and indifference to the importance of information literacy and the overwhelming workload of librarians creates more problems.

- Other barriers include the lack of co-operation from faculty, inadequate trained professionals in library and information science and lack of awareness of the importance of information literacy by the society.

3.4.8 Bangladesh

Shuva (2005: Bangladesh perspective) writes that information literacy is not a popular term in Bangladesh. A survey conducted by an organisation called Information Science Today among students, teachers, businessmen and professionals revealed that about 93% were not familiar with the term. This, he argues, calls for a comprehensive training programme especially in educational institutions. Further, he contends that information literacy in developing countries cannot be successful without support from governments and co-operation and assistance from the developed world. He advocates that collaboration between developed and developing countries is necessary towards promoting and implementing information literacy initiatives in developing countries (Shuva, 2005: Bangladesh perspective).

3.4.9 West Indies and Trinidad

Hosein, (2006: 110) traced efforts towards integrating information literacy at the University of West Indies and Trinidad in February 2003 when a working group was formed with the sole aim of developing a comprehensive course in information literacy to be delivered online using the Web CT software. The course titled Information Literacy 100 was offered as a flexible generic course used as a training package. It is designed in modules and incorporates the most basic information skills on the premise that most users have insufficient skills. The modular system of the course enables students to target the ones that best suit their needs. Faculty and librarians can also direct students to particular modules appropriate to their needs. He argued that as with other institutions, the challenges faced towards integration were enormous in terms of the nature of usually over-crowded curriculum and lack of co-operation from faculty (Hosein, 2006: 111-112).

3.4.10 Kenya

Kavulya, (2003: Introduction) undertook a study to investigate the progress of information literacy initiatives in four Kenyan universities namely – Catholic University of Eastern Africa, United States International University, University of Nairobi and University of Kenya. The study examined various library instruction, library orientation and other reference services offered by these universities. In Kenyan universities, information literacy programmes are taught to undergraduate students in the form of a communication skills course. The course is designed with the purpose of assisting new students to become familiar with the needed skills for academic work. The library skills component of the course ensures that the user is able to exploit library resources adequately by establishing a link between the subject taught and the literature available (Kavulya, 2003: Approaches to information literacy).

In his analysis, Kavulya (2003: Approaches to information literacy) noted that the effectiveness of these programmes has been hampered by the failure to come up with realistic and achievable objectives due to such factors as:

- Lack of trained librarians, which is evident in the exclusion of librarians in the design and delivery of the course.

- Lack of an effective method of evaluation: The element of examination makes students approach information literacy from a theoretical point of view rather than relate it to daily information use.

- He notes also, rather sadly, that the absence of an institutional policy on Information and Communication Technology (ICT) in Kenyan universities makes it difficult for librarians to mount effective training sessions in the use of information sources for their users. Coupled with this is the inability of academic librarians to promote information literacy as a function of the university library.

In this regard therefore, he concludes that information literacy in Kenyan universities is yet to be a success story (Kavulya, 2003: Conclusion & Recommendations).

3.4.11 Botswana

Information literacy in Botswana, as enumerated by Ojedokun and Lumande, (2005: 119), was first adopted in 1981 in the form of user education. A more direct intervention by the library became necessary when feedbacks from the various faculties in the university implied that students' information searching skills was being questioned. The move towards integrating information literacy into the curriculum however, began in 2000 when the university revised its academic programme from the year-long subject to the semesterised course or modular system. This change brought about the introduction of General Education courses from which a computer and information skills programme emerged. The course was offered as a compulsory, credit-bearing, course taught by librarians and staff of the Computer

Science department (Ojedokun and Lumande, 2005: 119). In 2001 e-learning (electronic-learning) was also introduced and piloted with students in faculty of Social Sciences in 2002.

Challenges

In their analysis, Ojedokun and Lumande, (2005:123) noted that despite institutional and faculty support received towards implementing the programme, challenges faced have been those which relate to the impact of teaching information literacy courses by library staff. Specifically, due to shortage of personnel, the introduction of the course inevitably increased the workload of librarians which, in turn, affected the quality of other library services. Attempts to address this problem led to the inclusion of para-professional staff in the library in order to enable librarians to focus on the teaching of courses. While noting the difficulties faced in the implementation of information literacy in the University of Botswana, they emphasised the need for institutional support and continuous training of library staff in order to meet up with the challenges of integration.

3.4.12 Nigeria

Perspectives on the impartation of information literacy in Nigeria, as with other countries, is based on the premise that information literacy skills are vital tools in tackling issues of unemployment, environmental degradation, poverty and AIDS. Information literacy activities in Nigeria had existed in the guise of various user education programmes such as library instruction, library orientation and bibliographic instruction (Idiodi, 2005: Practitioner approaches to information literacy). The method of instruction has been on a one-on-one basis and the use of manuals and guides, the aim of which is to familiarise students with library facilities and services. This programme was eventually integrated into the General Studies course offered as a compulsory credit-earning course.

Challenges

In her analysis, Idiodi (2005: Practitioner approaches to information literacy) observed that even though most academic libraries in Nigerian universities have embraced Information and Communication Technology (ICT) and the use of

electronic information storage and retrieval devices, the transformation to automation has been one of a gradual process of computerisation. Challenges to the implementation of information literacy in Nigerian universities can be traced to the economic crisis of the late 1980's and early 1990's during which the quality of study and generally the educational system were gravely affected. The shortage of book supplies and inadequate funding of universities, and consequently academic libraries, and the intermittent industrial action undertaken by academic staff led to constant disruptions to the academic calendar and long-term adverse effects on the development of higher education in Nigeria (Idiodi, 2005: Conclusion & recommendation). Other problems include inadequate personnel, lack of support from parent institutions and computer illiteracy among staff and students. She concluded that even though the challenges of information literacy education in Nigerian universities are similar to those experienced by other developing countries, there is a need for more concerted efforts by academic librarians towards integration (Idiodi, 2005: Conclusion & recommendation).

3.4.13 Namibia

At the University of Namibia, information literacy implementation at first favoured an integrated approach with faculty subject areas. However, a combination of challenges which included increase in the student intake, insufficient facilities for instruction, time allocation and financial difficulties forced a re-consideration (Viljoen, 2005: 113). As a result, it is only in cases where librarians undertook to train individuals or groups that were homogenous that a subject approach was adopted. Interested students were required to book slots for theory and practical training sessions. Other challenges include:

- Inadequate human resources especially in terms of lack of a leadership role in charting a course for the implementation of information literacy programmes in the university.
- Also problems of assessment and measuring real learning outcomes. It is necessary that academic libraries should have a clearly formulated strategy and undertake to improve and expand information literacy training programmes.

He concluded that information literacy programmes can only succeed where there is a formal agreement or policy on information literacy and where the importance of information literacy training is recognised as a major goal of the university (Viljoen, 2005:112).

3.4.14 South Africa

The Western Cape Library Co-operative Project (initiated by the Senn Breivik Report), which commenced in 1992, marked the beginning of information literacy activities in South Africa. The report identified information literacy as a key factor in academic planning in tertiary education in order to achieve transformation with limited economic resources (Underwood: 2002: 5). The initiative whose main objective was to provide undergraduate students, especially those from disadvantaged backgrounds, with enhanced information literacy skills gave impetus to the major developments to the programme.

As part of the recommendations of the report, a pilot project aimed at developing information literacy was set up with a grant of $1 million (US) from *Readers Digest SA*, to be paid in tranches over a five-year period. Considerable success was recorded through this project, known as the INFOLIT, judging by the development of a number of information literacy approaches, some of which are currently being practiced (Underwood, 2002: 6). De Jager and Nassimbeni (2002: 174-175) report that in 1996, a credit-earning course was launched at the University of Cape Town (UCT), University of South Africa (UNISA), and University of the Western Cape (UWC) for undergraduate students. The programme was primarily designed for undergraduate students and was offered as a stand-alone course. The only curriculum-specific course in research information skills began at University of South Africa (UNISA) in 1997, the course was designed as a distance programme offered to postgraduate students. Also, at the University of Cape Town (UCT), a similar information literacy course was offered in the Faculty of Humanities in 2001. At the University of the Western Cape (UWC), in the department of Botany, an experimental multi-media course delivered on the World Wide Web, with emphasis on student-centred and resource-based learning, was implemented. Six other institutions also offered stand-alone and generic courses while there were similar attempts by others at integrating courses into

subject curricula at first year level or generic courses (De Jager & Nassimbeni, 2002: 177). Other outcomes of the project included:

- Access course to promote visual literacy (Cape Technikon); funding was provided to develop a peer counselling approach to learning information literacy skills.
- Accessing the INSPEC database to improve information literacy (University of Cape Town); this concentrated on the provision of access to the INSPEC database at each of the five institutions together with appropriate training.
- Arts information literacy package (University of the Western Cape), aimed at the students Faculty of Arts but intended to be of use to students of Humanities in all five institutions.
- INFOLEX: an undergraduate law information literacy course (University of Stellenbosch); the aim being to integrate information literacy training into a revised law course.

Another achievement also influenced by this project was the establishment of the Centre for Information Literacy, the aim of which was to foster collaboration between the staff and faculty towards developing appropriate strategies in integrating information literacy into the curriculum. The major challenge to this effort was the issue of expanding the existing curriculum to include components of information literacy (Underwood, 2002: 8). Also, the report of the Working Group on Libraries and Information Technologies (WGLIT) (1996) to the National Commission on Higher Education contributed to the promotion of information literacy initiatives in South Africa (Sayed, 1998: 15). In view of the global information changes, the report envisioned a new national information system which would serve as a unifying factor in transforming the higher educational system in terms of responding to the national agenda of reconstruction and developing the capability of meeting the challenges of globalisation and the new knowledge economy (Underwood 2002:4).

Challenges

Sayed (1998: 6-7) observed that, considering its discriminatory past, information literacy implementation in South Africa was based on the recognition that not all students have had equal access and exposure to educational resources and that the skills required for information literacy may not necessarily be generic but may depend on individual context.

De Jager and Nassimbeni (2002: 169) stated also that policy issues have been a main concern to the government. They argued that even though there is no specified document on government's position on the information society, the South African government has demonstrated a general awareness of the importance of a knowledge-based economy and has expressed the desire to raise awareness of the benefits of an informed citizenry. They pointed out that South Africa's governments' participation in the Okinawa Information Technology Charter, adopted at the G8 Kyushu Summit in 2000, shows its explicit commitment to issues of information literacy.

Information literacy has become a central issue to the mission of higher education and from the review of the efforts made towards integration, it is clear that experiences of challenges do bear certain similarities irrespective of the context in which they are operated these include such problems such as lack of national and educational policies, poor funding, inadequate skilled librarians, lack of clarity in institutional or library policies, lack of collaboration between librarian and faculty and so on. In most countries, specifically Europe, the United States and Australia, the educational philosophy for curriculum integration is guided by established standards or frameworks which promote the idea that information literacy should tightly be woven into the mainstream of the academic curricula (Blackall, 2001: Curriculum integration?). Practices have however shown that recommendations from adopted standards are insufficient without governmental or institutional support and a commitment to implementation by all stakeholders.

From the fore-going issues discussed however, it is apparent that unless challenges of information literacy implementation are addressed, efforts towards implementation especially in developing countries will be stifled. As evidenced, the dimensions of the experiences between developed and developing countries seem to differ and this largely accounts for the degree of success or failure recorded in implementation. Pejova (2002: 4) notes that while developing countries are still striving with the issues of establishing the basic pre-conditions for information literacy, most developed countries with high levels of per-capita income, well developed libraries and information infrastructure and highly educated and professionally trained information and library specialists are only faced with problems of creating better awareness of information sources or information illiteracy. Socio-economic, political and cultural antecedents over the years have adversely impacted information literacy efforts in developing countries. This is reflected in the studies of Sayed (1998: 6-7) and Underwood (2002: 4), which highlighted that the discriminatory impact of the apartheid era has had a negative effect on the general educational system in South Africa. Similarly, Dudziak (2006) also argues that dictatorial regimes in Latin American countries have had a major bearing on limiting the understanding of the concept of information literacy. Economic hardships and other structural transformations have also had a concomitant effect on increased problems of poverty, unemployment, disease and under-funding to higher education institutions, particularly libraries (Pejova 2002:3); these conditions are cited by Idiodi (2005: Practitioner approaches to information literacy) in her analysis of the challenges faced by Nigeria. In a comparative analysis, Pejova, (2002: 4) outlines the following features of information literacy in developed countries:

- A strong massive movement and network of organisations and professional associations engaged in information literacy promotion and implementation.
- Well developed library and library and information systems and networks.
- A significant turning of attention by schools and universities to the lifelong skills of learning how to learn, that is, of educating pupils and students to find, evaluate and effectively use information.

- A well educated and trained information and library professionals and enthusiastic educators acting energetically and in many cases on self-initiative.
- A plethora of information literacy curricula and syllabi many of them available on the internet, accompanied by innovative approaches of how to teach information literacy (objectives, standards and measures).
- Users who through all their schooling have been exposed and taught to use rich and well organised information sources.

This is opposed to developing countries with the following features:

- Lack of co-operation among professional organisations and lack of a well articulated and/or promoted policies and programmes.
- Under developed library and information systems and networks.
- Expensive telecommunication infrastructural services
- Shortage of library and information professionals who could give the needed impetus to information literacy promotion.
- Intimidated users who are not so well acquainted with the nature of information and its creation.
- The ever-widening digital divide. Dudziak, (2006: 6) particularly affirms this point when she states that digital exclusion is the biggest challenge faced by developing countries as it continually widens the gap between the population of the rich and poor countries while hindering the development of less favoured countries.

The literature of information literacy in developing countries is scanty, particularly African countries (Ojedokun & Lumande, 2005: 118) and as result, efforts and challenges cannot be fully assessed. Pejova (2002: 13) argues that addressing problems of information literacy in developing countries, in view of the above problems, demands closer co-operation with developed countries through the provision of financial aid and professional expertise which could be carried out

through joint projects for collaborative exchanges. Such projects can be tailored to assist individual countries to intensify and broaden their existing activities on information literacy promotion and implementation. This could be done through the auspices of international organisations or other bilateral relations. This view is supported by Aiyepeku, Atinmo and Aderinoye (2002: 1-3), when they argued that efforts aimed at promoting information literacy in African states must be understood and evaluated in the context of other problems faced by the continent especially in terms of socio-economic development. Further, they contend that information literacy campaigns in developing societies such as Africa should focus on the following objectives:

- Identifying goals and measurable objectives for such initiatives.
- Advocating benchmarks that reflect African realities.
- Evolving appropriate educational and research programmes and projects to address distinctly African circumstances.
- Assessing the relevant administrative, personnel, material and financial resource inputs to implement and sustain both ad-hoc and longer term initiatives.
- Making information literacy initiatives in African states part of the wider global initiatives in order to improve education and create more equitable access to information and communication.

Though information literacy has become a global phenomenon which reflects the "worldview" of an individual and consequently his community (Underwood, 2002: 10), unfortunately, in African countries and other developing countries it is lagging behind and the urgency of the situation is illustrated in the widely decadent socio-political and economic situation, particularly in higher education institutions. Raseroka, as cited by Ojedokun and Lumande, 2005:117), contends that the recognition by African governments of the importance of information for development through the Africa Information Society Initiative (AISI), places a responsibility on universities as major sources of human resource development to help

graduates develop their abilities and skills in order to harness and use information efficiently and effectively.

3.5 Challenges of integration by subject discipline

Empowering students for lifelong learning has always been the underlying educational objective of information literacy. The development of information skills can best be achieved through engaging students in active problem solving as a way of enabling them to develop the cognitive tools needed to transfer acquired skills to novel situations. The peculiarity of every subject discipline is dictated by its course content and curriculum structure which in turn determines the format of an effective information literacy course. According to Grafstein, (2002: 200) the subject content of every discipline is constantly changing especially in the scientific fields; the educational goal of information literacy therefore, has been to inculcate relevant skills within the subject domain in order to promote lifelong learning. Similarly, Sallen, (2002: 126) notes that the information structure of every discipline is strictly related to the complex nature of its resources requiring the user to have a "linguistic knowledge" of the discipline and acquire new skills in the ever changing structure of the Information and Communication Technology (ICT) world. This section attempts to examine some of the challenges faced in integrating information literacy in some subject disciplines, the imperative of which is to contextualize the importance of information literacy as it relates to legal resources, noting its peculiar hierarchical information structure.

3.5.1 Nursing

Shorten, Wallace and Crookes (2001: 86) undertook a study to investigate the level of awareness of students to the nursing literature at the University of Wollongong, Australia. The study compared two groups of students; that is, those who had undertaken the information literacy programme and those who had not. Nursing education traditionally places intrinsic value on scientific authority and adherence to well established clinical protocol and routine practices; however, current healthcare services require flexibility, innovativeness and an ability to handle complex patient problems by utilising the best available evidence (Shorten, Wallace & Crookes

2001:86). They noted however that the traditional approach does not equip graduates for future practice in current health care service. Information literacy in the context of nursing education provides students with the opportunity to develop the needed research skills that can be incorporated into healthcare practice.

The implementation of the programme, which involved laboratory tutorials and other task-related activities, provided students with the opportunity to familiarise themselves with the library catalogue and other electronic databases and learn skills in critical analysis. In evaluating the programme, the authors noted that it provided statistical evidence of the differences in self confidence between the two groups of students compared. They concluded that the development of self confidence is a necessary precursor to an integral component of student motivation, skills and development (Shorten, Wallace & Crookes 2001: 91).

3.5.2 Music

Christensen (2004: 616) in a study of information literacy among undergraduate music students at St Olaf College enumerates the challenges faced in course integration. The programme began as a proactive response by librarians towards encouraging information literacy by inculcating various research abilities and critical thinking skills to students. It was divided into four facets:

- Absolute Knowing.
- Transitional Knowing.
- Independent Knowing.
- Contextual Knowing.

Each of the four facets was integrated into various assignments for which they were to be assessed. Christensen notes that gaining faculty support in order to weave information literacy into the main fabric of the music curriculum presented a major challenge: moreover, these required faculty and institutional support and these form an important baseline and provided a stable environment for a consistent inclusion of the library in the overall learning process (2004: 621).

3.5.3 Chemistry

Mabrouk (2001: 1628-1629), in a study undertaken to improve research skills, ethics and information literacy in a graduate course, noted from evaluations that the course was beneficial in helping students to tackle some of the challenges they face in researching chemical literature and provided a formal mechanism for instruction in laboratory safety, chemical information literacy, ethics, waste management and experimental design.

3.5.4 Literary Questions

According to Barnhart-Park and William (2002: Introduction), information literacy in literary studies provides the needed tools for participants to become aware of the rhetorical and political pressures of a discourse. It challenges students to question their assumptions about literature and examine the political and social forces that guide those assumptions. The programme was integrated into an English course (Introduction to the theory and methodology of literary studies) which provided the students the opportunity to focus on examining the discourse of literary studies and engage them in critical reflective thinking of literature as socially constructed around a discourse (Barnhart-Park and William, 2002: Literary questions). From their evaluations, Barnhart-Park and William (2002: Conclusion) were able, through the various processes, to make the students active participants capable of assessing and critically interpreting myriads of available information and to transfer skills gained to other course disciplines. They concluded that teaching information literacy skills requires that its components are woven into the traditional course content as inter-related bodies of knowledge rather than as separate entities.

3.5.5 Sociology

Mizrachi (2004: 181) reports on the outcomes of a study undertaken to assess a programme aimed at developing research skills among undergraduate sociology students at University of California Los Angeles (UCLA). The programme was a three-tiered sequential model of information literacy which included:

- Lower division introductory course – basic information literacy skills and strategies.
- Gateway to major course discipline specific resources and strategies.
- Upper division – advanced skills and resources.

The first two levels were implemented into two large compulsory courses (that is introductory sociology and sociological research methods) while the third was a one-unit information literacy course tied to a group of upper division core courses. In evaluating the programme, Mizrachi (2004: 184) observes that information literacy courses designed with direct applicability to students' assignments and course work has a greater impact in meeting their research and information skills needs. She noted also that online tutorials are useful tools in introducing basic information literacy concepts and for teaching the technicalities of using catalogues and databases.

3.5.6 Management

The importance of information literacy in management is also highlighted in the work of Cochrane (2006: 97). His article presents the results of a case study investigating the extent to which information literacy is integrated into student learning in an undergraduate management degree programme at Queens University, Belfast. The study was motivated by reports which suggested that management students were deficient in analytical, quantitative and academic referencing (2006: 98).

Information plays a key role in business and organisational institutions. Information literacy in business enables managers to identify their information needs, locate, retrieve and evaluate accessed information. At the undergraduate level, it is an important management resource which helps in equipping students with skills for building a career in the organisational workplace. The paper, which was written from the perspective of a lecturer, explores alternative viewpoints and contributes to the debate regarding the role of different professionals in promoting information literacy in undergraduate education as well as the challenges faced (Cochrane, 2006: 99). It examines students' information skills in terms of:

- Class performance in assignments.
- Their views and perspective on the importance of information literacy.
- Challenges of the modular approach in embedding information literacy in management.

Findings from the study provided a broad indication of students' performance in terms of their strengths and weaknesses. Cochrane argues that it is important that information literacy is systematically embedded into the degree programme of undergraduate students in order to give them the opportunity to develop competencies as they progress (Cochrane, 2006:102).

3.5.7 Medical Sciences

Criticisms of the inadequacies of the conventional medical curriculum, hitherto mainly faculty centred, has led to the adoption of a new educational method – Problem-based learning. Problem-based learning and other varieties of it emerged as a leading response to earlier models of medical education. It was first pioneered by the McMaster Medical School in Canada with the aim of producing graduate physicians who are proficient problem solvers and life long learners and also as a step towards integrating the basic sciences with the clinical sciences throughout the curriculum (Oker-Blom, 1998: New methods in medical education).

Problem-based learning is basically a student driven learning strategy which enables them to generate learning issues with guidance from faculty. This approach has been executed in North America and Europe and is widely used in the learning methodology of medical education. It is also believed to offer significant new roles and challenges for libraries including the opportunity for transmitting library and information skills. Oker-Blom (1998: New methods in medical education), in assessing the programme, noted that this approach has produced positive outcomes in terms of students' attitudes and responses to library services, especially in the area of consultation of library materials and reference inquiry. More students have been shown to exhibit better skills in using a range of library resources, search tools and databases. Also, this approach has enabled librarians to be more pro-active by being

aware of teaching programmes and needs of staff and students, thereby promoting efforts towards curriculum integration (Oker-Blom, 1998: Curriculum planning/librarian-teacher interaction).

3.5.8 Law

Natalie Cuffe (2002: Introduction) studied the experiences of students in information literacy and information technology in four Australian universities. She noted that the traditional content based approach of law curriculum does not prepare graduates for the changing legal workplace. In the Australian universities under study, she notes that the curriculum model for legal education is deficient in relation to the directions recommended for information literacy education, as it largely isolates information skills instruction within the legal research programme. It has therefore become necessary for the higher education institutions to reconceptualise their teaching methods in ways that facilitate a seamless transition for graduates from the university to the workplace environment, thus encouraging a process of lifelong learning (Cuffe, 2002: Developments in higher education paradigm – information literacy and graduate attributes).

In her analyses, Cuffe (2002: Legal information literacy model assessment) argues that the content, mode of teaching and assessment strategies are significant factors in the design of the legal education curriculum which should encourage critical thinking and problem solving. The delivery mode of legal information literacy education should be placed within the content of the LLB course unit to ensure an integrated and incremental approach to the development of legal information processes. In her view, legal information literacy is best integrated as a separate compulsory research course within the first year of a law degree, while an advanced research unit can be incorporated in the final year as a way of consolidating students' information and information technology skills. Further, she observes that the middle years of the law degree are vital to inculcate ongoing information literacy learning through the assessment of legal research and information technology skills within the context of the subject.

An attempt aimed at integrating information literacy in legal research at Cardiff University was also not met without challenges. The course was offered in modules as a compulsory 20-30 credit load course. The main features of the course were introduction to the English legal system with a limited element of library skills as a way of embedding a skills component within a substantive framework. Davies and Jackson (2005: Information literacy in Cardiff Law School) noted in their analyses of the programme that though library skills were introduced to include electronic resources, they were not integrated into the course, hence the module was lacking in substance and regarded by students as less significant compared with other law courses. They concluded that if positive outcomes are to be realised, it is necessary to embed the skills element into substantive law courses.

3.6 Conclusion

In this chapter, an analysis is made of the importance of information literacy in relation to the undergraduate curriculum as well as the challenges faced in integrating concepts of information literacy in the various disciplines including law. Developing graduate attributes is the focus of most higher education institutions the aim of which is to provide a context through which students are able to acquire and practice new skills for problem solving (Yelland, 2007: 8). From the foregoing, information literacy initiatives in various disciplines serves as a vehicle through which students can engage in enquiry that promotes critical learning and problem solving from a variety of sources. Applying information skills and information retrieval processes in any discipline is best imparted within its context: this view is supported by Grafstein (2002:197) when she argues that information literacy defines an independent and critical way of thinking and reasoning about a discipline, which enables the student to comprehend the subject specific content and research practices of any particular discipline as well as the broader process-based principles of research and information retrieval that apply generally across disciplines.

The Association of College and Research Libraries (ACRL) Guidelines, 2003 on characteristics that illustrate best practices (Category 5, 6 and 7), clearly states that

integrating information literacy within the curriculum and pedagogy must include among other things, the following:

- Emphasis on student centred learning.
- Identification of the scope of competencies to be acquired on a disciplinary level as well as at the course level.
- Sequencing and integration of competencies throughout a students' academic career progressing in sophistication.
- Support of diverse approaches to teaching.
- Inclusion of active and collaborative activities.
- Encompassing of critical thinking and reflection.
- Incorporating appropriate information technology and other media resources.

Manuel (2002: Introduction), however, notes that though the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education (2000) provides a framework for the implementation of information literacy education, it is not inherently sufficient for information literacy instruction within specific disciplines, hence the need for discipline specific integration as an approach. Also, studies in the workplace have shown that the globalized economy of the future requires people who are skilled and innovative in handling information in various formats. In the legal profession in particular, the advent of Computer Assisted Legal Research (CALR) has revolutionised legal practice, requiring a restructuring of the educational curriculum to meet current challenges. Yelland, (2007: 122) notes that governments are increasingly recognising that developing the knowledge economy depends on the restructuring of the educational system in order to produce graduates who can work well in collaborative contexts and who are creative, innovative and flexible learners.

CHAPTER FOUR
INFORMATION LITERACY AND THE UNDERGRADUATE STUDENT

4.1 Introduction

Despite the abundant literature on information literacy, students' perception of information literacy and information literacy education seems to have been largely under-represented. Concerns in the way students conduct research and use library resources, specifically web resources, have prompted studies into the information seeking behaviour, preferences and perception of students in research particularly in the use of electronic databases, which commentators have noted is charting a new course in information literacy instruction with a potential to revitalise efforts towards the development of the undergraduate curriculum (O'Brien and Symons, 2007: 410). The need to explore this aspect of information literacy education forms a profound basis for addressing issues of curriculum development and lifelong learning as they are likely to inform the future direction of information literacy initiatives.

4.2 Information seeking behaviour of undergraduate students

Studies in the information seeking strategies of students reveal that most students tend to adopt both effective and ineffective approaches from educators (Kerins, Madden & Fulton 2004: Introduction). According to O'Brien & Symons, (2007: 411) student information seeking behaviour and search strategies are mostly influenced by their teachers. They argued that the disciplinary culture of a field often impacts the way students conduct research and influences their choice of resources. This view is supported by Whitmire (2002: 631), who noted that most undergraduate students are indoctrinated into the research process of their academic disciplines through course assignments and lectures. This view underscores the role of the faculty in exposing students to the major theories, search strategies and experts in the particular field as a way of encouraging skills development. Dalgleish and Hall (2000: 106), however, presents an opposing view when he argues that the provision by lecturers of articles

from journals and books as reading lists to students has a tendency to diminish the exercise of individual academic inquiry and limits the students experience in information searching, evaluation and critical thinking. This view brings into question issues of curriculum design, information literacy pedagogies and the actual student experience of information literacy.

Maybee (2006: 79), in an article on the undergraduate perception of information use, observes that approaches to information literacy education in higher education institutions seem not to take cognisance of the undergraduate students' perception. He argued that programs of information literacy instruction must be designed in ways that reflect the complexities of the current information environment while simultaneously addressing student needs. Findings from his study revealed that in creating information literacy pedagogies, institutions must recognise that undergraduate students experience information use in a complex, multi-tiered way, hence a user-centred approach such as Bruce's (1997a) relational model is in consonance with the learners' conception of information literacy and significant in addressing weaknesses in current educational pedagogies.

In the area of research, O'Brien and Symons, (2007: 420) noted that undertaking independent research has often proved a challenge to the undergraduate student; this is reflected in their limited research skills. They argued that developing students' skills in the information seeking process that relate to their discipline produces positive results considering that the research process of each discipline is unique to its subject field. Seamans (2002:113-115), in a study undertaken to evaluate students perception of information acquisition and use at Virginia Tech (USA), noted that most students seemed to have little need of information resources not provided by faculty members and had limited knowledge of the use of print resources such as indexes and other bibliographic tools as compared to electronic resources. In addition, the perception of the students as regards information found on the internet revealed that most were confident of the availability of the resources on the internet but the degree to which such information should be evaluated varied depending largely on their perception of the reliability of the website. A test of their search strategies showed that their approach to information gathering seems to be with the aim to support a pre-determined viewpoint as opposed to more broadly exploring a topic. This view, as

noted by Hepworth (1999: Findings), could be attributed to the fact that most students are generally not aware of the range of resources that can be used to identify relevant information. He argued that most students seem to find difficulty in contextualising a problem within a broader subject field which often leads to frustration in information searching: for most, serendipity rather than skill seems to define their research process indicating a lack of control in information search (O'Brien & Symons, 2007: 414). Further in the analysis, Seamans (2002: 117) noted that most students in searching for information tend to start with a fairly broad focus and narrow down to a specific topic. Their use of Boolean operators also suggests the preference to string words together when a search word does not retrieve the desired result. Findings revealed that despite their knowledge of the Boolean logic, the lack of a systematic approach in conducting a search constitutes a problem (Hepworth, 1999: Findings). Also, misconception of the differences between the public internet and online subscription databases suggest that this is an area that needs clarification to students. Quarton, (2003: 121) emphasises the need for students to be enlightened about the use and importance of these databases as most are carefully selected by libraries according to strict criteria for content, usability and relevance to the university curriculum.

Peer-to-peer consultation seems common among most students, 88% as revealed in Seamans' (2002: 115-116) study, consulted one another; this may however vary according to subject disciplines. Kerins, Madden and Fulton (2004: People sources), in their study of the information seeking behaviour of engineering and law students noted that engineering students tend to consult one another in their information seeking process while law students appear to work independently to develop their own skills. The latter case may indicate that their level of self-directed learning may be weak (Hepworth, 1999: Findings) while the former lends credence to studies that have suggested that students have difficulty in perceiving libraries and librarians as part of their information support network (O'Brien & Symons, 2007:415-416). The organisational structure of the library and the general attitude of librarians is an important factor in this regard. This situation stresses the need for libraries and librarians to be pro-active in delivering students skills and be aware of their changing information needs as they progress: this helps to foster the link between students, library resources and the responsibilities of the subject librarian.

As regards legal and ethical issues, Seamans, (2002: 122) observed that most students are not aware of privacy issues relating to the use of information, especially online information. This emphasises the role of librarians in reinforcing the importance of ethical behaviour in information use through information literacy.

4.2.1 Information literacy and students perception

Studies in the perception of students information skills have shown that most seem to have an unrealistic knowledge of their information gathering abilities (Hepworth, 2000: 30; Cochrane 2006: 106; Ola and Ornas, 2006?). Among law students, Kerins, Madden and Fulton (2004: Law students) observed that they seem to over-estimate their information skills but problem exercises have revealed a poor level of ability. In their analysis, the view that legal research training is mostly teacher-centred and content oriented accounts for the limited progress in pedagogical approaches for skills development. They argued that the gradual shift to process oriented pedagogies reflect the belief that information skills can best be achieved through engaging students in active problem solving. This view is supported by Lumina (2005: 349) when he opines that the problem method in legal education challenges students to think critically and take responsibility for their own learning. This methodology, as reflected in bar examinations, often involves hypothetical situations for which students are required to solve problems from their knowledge of legal rules and principles. Clinical legal education is an example of this method; it is aimed at imparting certain basic skills and values by integrating the knowledge of these skills with the principles of law to resolve legal problems. In practice, it enables the student to master the rubrics of handling legal issues and enhances their educational experience in providing affordable legal representation to the community.

Further on the study on student perception of information literacy, Cochrane (2006: 105-107) notes that the level of students' information skills improves as they progress in the course of their studies. In his view, students are assessment driven and are more inclined to demonstrate their skills if the grades count towards the degree in view. Evidence from his study also shows that students seem to have a positive perception of the usefulness of information skills in relation to their studies and acknowledge that acquired skills are valuable to their professional lives.

4.2.2 Information literacy and educational reform in student learning

The concept of lifelong learning, according to Behrens (1995: 254), connotes the inculcation of "life skills" to enable the learner to adapt to the constantly changing information society. The context of self-directed learning, she elucidates, implies an independent pursuit by the learner in a continuous search for knowledge by which he or she is capable of self motivation and can critically assess or analyse a given situation and apply accessed information for problem-solving. Students are central to the learning process; the responsibility of educational institutions in ensuring that opportunities are created for students to acquire the needed competences is germane to developing lifelong learning abilities; students must be empowered with the needed skills for lifelong learning. The emergence in recent years of the constructivist-cognitive revolution such as resource-based learning, active learning, problem-based learning, brain-based learning, and so on, has challenged educators to re-think some basic assumptions as to how learning occurs in students (Warmkessel & McCade, 1997: 81).These process oriented learning methods are based on the views of some commentators who noted that there seems to be a significant difference between the curriculum and the actual student experience: such methods are therefore aimed at balancing the process and content of learning in view of the overwhelming explosion of the knowledge base. Further in their argument, Warmkessel and McCade (1997:81, 87) contend that the constructivist approach enables students to discover significant amounts of information independently and provides them with a breadth of expertise and richness of perspective in learning.

The Information literacy Standards for Student Learning (1998) provides a conceptual framework to enable educators measure progress in student learning. The standards consist of three categories (information literacy standards, independent learning standards and social responsibility standards) nine standards and twenty nine indicators. The standards include:

- The student who is information literate accesses information efficiently and effectively.

- The student who is information literate evaluates information critically and competently.
- The student who is information literate uses information accurately and creatively.
- The student who is an independent learner is information literate and pursues information related to personal interests.
- The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.
- The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.
- The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.
- The student who contributes positively to the learning community and to society is information literate and practices ethical behaviour in regard to information and information technology.
- The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information.

Critical thinking and developing the ability for lifelong learning is the fundamental objective of information literacy. The challenges of globalisation and other technological advances demands that students are empowered with the essential information skills that will enable them function in a knowledge driven economy. Makhubela and Koen as cited by Somi and De Jager (2005: 260) contend that information literacy offers a broad approach by which students can be educated to understand the importance of information and to have the competence to locate, evaluate and manage such information in a way that contributes towards a higher level of literacy and lifelong learning.

4.3 Information literacy and librarian/faculty collaboration: an analysis

Information literacy earlier championed by librarians is currently attracting the attention of educators, legislators, administrators and other professionals (Scales & Johnson, 2005: 229); the importance of information literacy and the allied concept of lifelong learning and current needs in the economic workforce has greatly triggered the efforts aimed at enriching the educational experience; this has led to the demand for more enduring partnerships between librarians and faculty in transforming teaching and learning (Bruce, 2001: 106-107). In this segment of the literature, an attempt is made to analyze the underlying issues surrounding collaborative relationships between librarians and the academic faculty.

The issue of librarian and faculty collaboration has been recognised as one of the most essential ingredients for effective library instruction. The growth in collaborative endeavours between librarians and teaching faculty in the effort to integrate information literacy into the curriculum is seen by many as the key to promoting student learning in higher education institutions (Lindstrom & Shonrock, 2006: 18, 19); accreditation agencies and standards also seem more disposed to the view that information literacy is central to student learning and is best addressed within a collaborative framework which in turn provides the opportunity for a shared vision of the goals and objectives of the institution (Mackey & Jacobson, 2005: 140). However, earlier perceptions of information literacy as mainly a library centred programme led to the initial disconnect between the library and faculty, especially with regards to instructional roles: this essentially highlights the importance of fostering collaboration through continuous planning and dialogue between the two parties.

The debate surrounding issues of collaboration has had far-reaching effects on information literacy implementation initiatives in higher education specifically; these issues have tended to create conflict between librarians and faculty especially with respect to issues of curriculum planning and design of instructional roles (Lindstrom & Shonrock, 2006: 19). Snavely and Cooper (1997b : 57) observed that even though information literacy plays an important role in the learning process by way of enhancing the curricular and educational mission of an institution, librarians have

found themselves competing with other demands in the effort to convince faculty and administrators of its relevance. Doskatch (2003: 111), in an analysis, reviewed some of the conflicting issues as involving the following:

Library-centric view of information literacy: The perception that information literacy is purely a library programme accounts for its slow penetration into institutional goals. Rice, as cited by Lampert (2003: 248), notes that the reluctance of librarians to share information literacy instruction with the teaching faculty is a contributing factor; this compels the need to de-emphasise the library-centric view of information literacy and promote it as a holistic educational outcome based on transferable concepts in order for partnerships to be encouraged.

Secondly, the debate on the academic status of librarians has led to viewpoints which perceive them as administrative staff thereby alienating them from educational roles. This view, as observed by Doskatch, (2003: 114-115) is manifested in the resistance by academic faculty in some institutions to allow for the elevation of librarians to academic status which has hindered attempts to penetrate the faculty. She notes further that the problem also lies within the library and information science (LIS) profession as there seems to be no consensus as to what actually constitutes the core responsibilities and value of librarians; the literature of librarianship does not seem to portray a clear picture of the educative role of the librarian, which has resulted in a lack of professional self-understanding and self-definition among LIS professionals resulting in their inability to communicate their roles and responsibilities to the academic faculty.

Another contentious area is the aspect of curriculum development where academic faculty is seen to have some measure of control and considerable influence on students and subject disciplines; effective implementation of information literacy programmes must therefore take cognisance of this as it has the tendency of arousing territorial disputes. Librarians should seek to advise and make recommendations where necessary without attempting to dictate or control the curriculum; library goals must align with that of the faculty for positive progress to be made (Curzon, 2004: 29, 35). It is important that information literacy programmes are executed as part of the educational strategy of the institution rather than solely a library exercise.

In view of these issues, a few suggestions have been proffered for more effective collaboration between librarians and faculty; they include:

- Collaboration involves building alliances especially at the planning stages of course development especially in terms of syllabus and assignments; librarians can be resourceful in helping faculty to assess areas of student information need as they are better aware of the wide range of resources and research tools which can be integrated into course assignments. This will help foster critical evaluative skills among students and create a positive impact on the way instructors develop course activities. Faculty can also, in turn, provide input to librarians about students' experiences with library resources and offer suggestions for improved research materials, information organisation, and access to technology (Mackey & Jacobson, 2005: 140).

- According to Lampert, (2003: 248), it is the responsibility of librarians to make extra effort to work with faculty by marketing their instructional roles to the campus. They will need to build a range of coalitions for information literacy by employing political tactics such as negotiations, persuasion, compromise and strategising in order to achieve certain objectives. Curzon, (2004: 32) also notes that creating awareness of the issues around information literacy helps provide a strong support base; it is the responsibility of librarians to demonstrate the importance of information literacy to faculty and the need for critical thinking and problem solving skills for students. Faculty needs to be enlightened of the concept of the information explosion and why information literacy skills provide the student with a strategic advantage for continuous learning.

- Iannuzzi (1998: 98) points out that the campus culture goes a long way in determining the extent to which information literacy is integrated into the mission or strategic goals of an institution. It is necessary that the individual and collective goals of the institution include information literacy

components; this helps to provide funding and support for an information literacy agenda.

- The targets of information literacy are also valuable, Curzon (2004: 29, 30) opines that information literacy entails sharing an endeavour; librarians must make a commitment to work with faculty who are often torn between conflicting interests. Some useful targets include the academic senate, faculty members, academic administrators and departmental chairs. These constitute important players for creating a formidable partnership in order to ensure a successful implementation of programmes. The ability of librarians to use such opportunities will determine the framework around which individuals both within and outside the academic world view and value information literacy (Scales, Matthews & Johnson 2005: 230). Bruce (2001: 108) also proffers various dimensions of partnerships with these targets, which include policy partnerships, research and scholarship partnerships, curriculum partnerships and academic development partnerships.

- Some models have been identified as effective for implementing information literacy instruction; while some of these models may not be ideal, each institution may adopt any that are most applicable and relevant to their needs. Examples include introduction model, general education model, learning outcome model, information literacy course model and demonstration of mastery model. These models help in enriching the students' life by developing their abilities for academic achievement and enhancing their capacity for lifelong learning (Curzon, 2004: 37).

There are however, a few examples of successful collaborative efforts as illustrated by Lindstrom and Shonrock (2006: 20). At the University of Auckland Business School, a cross disciplinary collaboration on course design, delivery and assessment was undertaken by librarians and teachers from which a student-centred information literacy instruction model was created for developing identifiable skills. The model was developed in an electronic format and embedded into a compulsory management

course to be taken by students in their first semester. Also at Pennsylvania State University, collaboration between librarians and faculty led to the creation of a course integrated library instruction using the problem-based learning (PBL) method. They noted that currently, far reaching efforts are being realised as a result of collaboration between librarians and academic faculty in promoting information literacy instruction and this has helped in promoting the goal of information literacy as an institutional rather than a library centred programme (Lindstrom & Shonrock, 2006:22).

The road to collaboration is however not without its challenges or critics: conflicting views about the role of librarians as partners with academic faculty have been expressed with suggestions that the functions of each are separate but inter-dependent. Lupton, (2002: 78), specifically, is of the view that librarians are yet to grasp the huge conceptual leap from the narrow-centred paradigm of bibliographic instruction to the broad learner paradigm of information literacy and this has made collaborative efforts counter-productive.

Asher (2003: 52, 54), in an analysis of the article by Lupton, observed that though she did not seem to oppose the implementation of information literacy as a joint responsibility of librarians and faculty, her argument posits the view that the role of the librarian is more valuable to the educational institution when confined to an ability to analyse and apply information in the subject discipline rather than the professoriate. Lupton suggests that the role of the librarian is more instructive in the area of developing information seeking skills and creating more opportunities as a way of working with academic faculty to integrate information literacy into the course content and programme of study. She argues that for maximum service delivery, the role of the librarian should be clearly delineated from the faculty and the limits of their expertise restricted to the library profession rather than attempting to convert them to perform academic roles. Lupton's view is however not shared by some commentators who view collaboration between librarians and faculty as a means of helping students scale the difficulties experienced in accessing the information universe. Some authors are of the opinion that more positive outcomes are being realised as a result of collaborative activities in terms of promoting information literacy instruction in higher education institutions (Lampert, 2003: 246).

Librarians do not solely own the concept of information literacy and as such, the challenges of promoting it can only be achieved through collaborative partnerships; collaboration creates a synergy that is beneficial to the student and offers them the opportunity to apply information literacy to the context of any specific discipline (Lampert, 2003: 246).

4.4 Information literacy and legal education

From the onset, the objective of this dissertation is to analyse legal research within the context of legal education. It is hoped that this will provide a foundation for the examination of some of the challenges faced in integrating information literacy into the curriculum of legal education with a view to addressing the deficiencies of skills which have been identified. This segment of the literature attempts to examine the role of legal education in the two countries under case study, in preparing the law student for effective legal practice and the importance of information literacy in achieving this goal.

Law as a discipline and the legal system emerged as a form of rules between people living together and transacting with one another and had existed as such for the purpose of dealing with the disputes that may evolve out of these transactions (Innovative solutions, 2006: introduction). Legal education by definition refers to the educational experiences and training which helps the student to understand the use of law in the society (International Legal Centre, 1975: 16). Within this context, legal education is seen as the responsibility of higher education institutions in providing a structured and intensive education in the study of law.

4.4.1 Legal education in South Africa

Iya (2000: Introduction), in an analysis of the legal education in South Africa, noted that historical antecedents have played a major role in the development of the legal system. The introduction of the Roman-Dutch law with the arrival of Jan van Riebeeck in 1652 and the subsequent colonisation of the Cape by the British led to a further influence of English law and the establishment of English institutions. Further,

he noted that the presence of different cultural and religious groups in South Africa also led to the co-existence of other legal systems resulting in the need for a unification or separation of the systems in order to facilitate the interpretation of the law. The system of legal education in South Africa has also been influenced by the centuries of colonialism and the apartheid system. The legacy of the apartheid era specifically provided a framework for structuring the educational system after 1948; higher education systems were structured or developed along racial lines and this was only re-structured in 1994 with the collapse of the regime to incorporate equality among higher education institutions in South Africa and the need to work towards specified standards of development.

A remarkable milestone in legal education in South Africa was the enactment of the Qualification and Legal Practitioners Amendment Act of 1997 which helped in transforming legal education along democratic principles. All law schools in South Africa are by this Act, compelled to introduce a four year term of undergraduate law programmes (LL.B) to all branches of the legal profession which qualified such students practice either as attorneys or advocates upon completion of a compulsory year course in any of the seven law schools of Legal Practice and success at the bar examinations (Iya, 2000: Historical influences). The content and curriculum of the degree as determined by the law deans of South African universities were aimed at, among other things, ensuring that students acquire the needed skills that are appropriate to the practice of law, taking into account that South African law exists and applies to a pluralistic society. Iya (2000: Conclusion) notes however that legal education in South Africa faces the challenge of implementing changes that reflect domestic needs as well as tackling issues of a global nature. He argued that though some successes have been achieved, there are still concerns on issues of access to justice by the under privileged and the need to decolonise the legal system in South Africa, especially the Eurocentric nature of the curriculum and the seeming control of the profession by a privileged few. Legal research training at the University of Cape Town is taught as progressive programme at each stage of the law degree exposing students the various law resources. The law library has a website for teaching legal research skills which includes a series of interactive web-based tutorials prepared by the library and the academic faculty

4.4.2 Legal education in Nigeria

The Nigerian legal system, by virtue of its colonial history, is primarily based on the English Common Law; the major sources of law include the constitution, legislation, English law, customary law, Islamic law and judicial precedents (Dina, Akintayo & Ekundayo, 2005: Introduction). Nigeria operates a federal system of government consisting of three arms of government: the legislature, the executive and the judicial arms of government. The current constitution is the 1999 Constitution, which came into effect in May 29th 1999 with the restoration of democratic rule. Legal education in Nigeria is co-ordinated by the Council of Legal Education which acts as a supervisory body for the accreditation, control and management of its processes in the country. The council regulates the activities of the Nigerian Law School, a vocational institution with three branches located in various parts of the country; it functions to coordinate the education and training of prospective lawyers in Nigeria. The Council of Legal Education of Nigeria was established in 1959 following the report of the Committee on the Future of Legal Education in Nigeria (Legal education in Nigeria, 1959: 3).

As part of the recommendations of the committee, the Council is to consist of the Chief Justice of the Federation, the Attorney General of the Federation, the chairman of the Nigerian Bar Association, heads of faculties of law recognised by the Council, the head of the Nigerian law school, two members of the bar nominated by the Nigerian Bar Council and two persons who have held judicial offices nominated by the Attorney General of the federation. The qualification for admission to practice law in Nigeria is a degree in law obtained from any university recognised by the Nigerian Council of Legal Education and the course of practical training and examinations prescribed by the Council. The legal profession in Nigeria unlike the English practice is fused and practitioners are entitled to practice as barristers and solicitors: the system of legal education is organised in a manner that facilitates such a practice. Legal research at the University is Jos is taught in the third year of the law degree and it is incorporated as part of the course in research methods, this often is insufficient to equip students with needed skills.

As noted in both countries, legal education has had definite colonial influences which has shaped their legal systems, currently however, legal education is basically localised to suit the domestic needs of the countries concerned. Ndulo (2002: 487), in an analysis of legal education in Africa, notes that economic constraints have had a major impact on the challenges of globalisation in Africa specifically structural adjustment programmes. He argued that even though the effects of globalisation has helped increase growth and wealth in some developing countries, it has also led to a worsening of the existing imbalances which has impeded development and increased the level of poverty; this in turn has affected funding to universities and legal education especially with regards to the development of suitable curricula and the quality of education. Further in his argument, he observed that the method of teaching of legal education which is often regurgitative does not encourage a critical and analytical attitude towards research by which the general principles of law can be understood and applied (Ndulo, 2002: 492). It is in view of this that information literacy provides a suitable platform for promoting legal research. In South Africa specifically, considerable attention is being paid to the teaching of legal information skills but a persistent problem is the gap between techniques acquired during legal training and those required in practice.

4.4.3 Information literacy, legal education and legal research

Research generally involves the ability to analyze problems, determine the information needed and effectively communicate results obtained. Wikipedia defines legal research as

> "The process of identifying and retrieving law related information necessary to support legal decision-making..." (2007: Legal research).

Legal research, whether done in books or electronic databases, is a process of problem-solving involving a careful examination of facts and an understanding and familiarity with the nature and tools of the resources in order to implement an effective research design. Research underpins a lawyers' ability to function competently and provide adequate representation to the client. As pointed earlier, the structure of legal information is distinct from other disciplines: this is because it consists of an hierarchically organized set of information of primary and secondary

sources and other search tools which are an important aid in the research process; using these sources has often presented a major challenge to the researcher in terms of understanding the complex system in which they are variously organized in an area of law. An essential first step however, is to develop an awareness of the types and relationship of these sources in the application of law.

The phenomenal growth of the legal literature resulting in a gradual shift from traditional print resources to electronic databases and the advent of Computer Assisted Legal Research (CALR) have necessitated a reconsideration by librarians and academics of the need to inculcate effective research skills in the student. The current inter-disciplinary nature of law occasioned by the rising influence of Computer Assisted Legal Research (CALR) has brought about a paradigm shift in legal research (Bast & Pyle, 2001: 285-286); (Bintliff, 2007: 261) and Hanson, (2002: 503) note that legal research has been fundamentally transformed by the information technology era, creating a challenge for the legal information manager and an even greater challenge for the user. This development has increased the pressure on legal education to produce graduates with competent skills vital for a knowledge driven economy (O'Regan, 2002: 243).

Legal education aims to prepare the student for effective legal practice. The debate on the poor research skills of law graduates has further challenged the responsibility of law schools in developing lifelong learning skills in undergraduate students. This debate is advocated by academics, practicing attorneys and librarians who have had the opportunity of dealing first hand with students in their scholarly pursuit. Studies have shown that most students enter into law school with poor or non-existent skills in legal research (Keefe, 2005: 119; Cuffe, 2002: literature review). This concern is however not limited to law students, as a similar lack of general preparedness has also been noted among students of other disciplines (Mabrouk, 2001; Mizrachi, 2004; Cochrane, 2006). Studies undertaken to evaluate the information-seeking patterns of law students as detected by some researchers has revealed a general decline in their attitude to legal research. Barkan (2007: 404) notes that the curriculum of legal education in most law schools tend to receive less priority with regards to legal research as opposed to other substantive law courses and this largely accounts for the poor research skills of students. It is worth noting that setting standards for legal

information literacy is both necessary and difficult *until* the pedagogical processes become established and its effects are clear.

Similar concerns have also been expressed in legal education institutions in Africa: in the past few years, persistent calls have been made for a re-structuring of the curriculum of legal education in order to equip graduates with the needed skills to meet up with current challenges of legal practice in the twenty first century. Woolfrey, (1995: 156) notes that most undergraduate law students in Africa seem to lack an adequate theoretical framework within which to comprehend the mass of legal materials at their disposal and lack sufficient problem solving skills needed for making a smooth transition from the academic to the vocational stage. Power (2007: 18) in a report of his visit to the faculty of law University of Jos, Nigeria, noted the poor research skills of the students in accessing legal databases. It is apparent from these indicators that the curriculum of legal education in African universities also seems to pay scant attention to the importance of legal research. It is within the purview of such expressed concerns that the relevance of the concept of information literacy in legal research has become an important subject of interest; to this end, a skills-based approach to legal education has been advocated as having a greater potential for achieving an integrative process in advancing student learning (Woolfrey, 1995:157). The need for a vocationally oriented legal education has led commentators to advocate that the content and curriculum of legal education should be designed in ways that help students engage in problem-solving, evaluation, critical thinking and other forms of simulated participation rather than mere information retention (Legal education in a changing world, 1975: 49). In legal research, information literacy provides a context through which essential skills training can be integrated into the teaching of law (Davies & Jackson, 2005: Information literacy: the concept). The strategy of information literacy ensures that standards are set that encourage students to develop highly effective research skills for problem-solving by providing the opportunity for learning experiences to be created so that students can develop skills in relation to what is taught (Potter, 2000: 287). Consequently, the need to articulate standards for integrating information literacy in the field of law has become a necessity if issues of the deficiency in the research skills of undergraduate students are to be addressed.

The curriculum of legal education in higher education institutions in Africa shows that limited efforts seem to have been made towards integrating information literacy in legal education. A look at the curriculum of the institutions under case study in both countries shows that even though research and analytical skills are outlined as part of the compulsory programmes, information technology, writing and communicating skills rather than information literacy are viewed as all encompassing in addressing the inadequacies of legal research. Integrating information literacy in the curriculum of legal education has a direct bearing on the legal system and the quality of legal practitioners produced; it enhances the competences of young lawyers by developing their ability to analyze and evaluate issues and complex facts from a legal perspective, respect principles of copyright and intellectual property and identify legal principles applicable to a given situation for problem-solving. According to Woolfrey (1995: 152), curriculum design is an area of academic development that has an impact on the form and quality of legal education with a direct bearing on the kind of legal system and legal practitioners that shape our future. Legal education must be rendered with a view to re-shape and re-structure the society to achieve national and socio-economic goals. Worthy of note also is the fact that the influences of globalization necessitate that African lawyers are able to provide legal services within the context of their own domestic legal systems and current social issues such as poverty alleviation, HIV/AIDs, the role of women, environmental degradation and human rights; legal education must equip students with the vision and skill to tackle such problems (McQuoid-Mason 2005: 108). The benefits of the information explosion can only be harnessed if the curriculum of legal education is re-structured to accommodate information literacy as a way of equipping law graduates with the needed skills for legal practice.

4.5 Legal information literacy: a review of the concept

The emergence of information literacy within the past decade has triggered considerable debate about the role of information in developing a knowledge driven economy specifically in higher education. Its emergence has also given rise to a number of related concepts aimed at developing an awareness of the importance of information within specific disciplines. In recent years, commentators have noted a convergence of literacies with information literacy being the focal point of other

related disciplines (Hoffman and Blake, 2003: 226-227). In the legal field, the current landscape of legal information, which encompasses a range of materials to a collection of more than one format, has redefined legal research with a focus on and about the materials of law which essentially cannot be isolated from the entire process and analysis of its resources (Hanson, 2002: 407). The changing legal information environment has had a profound influence on legal research especially with respect to the issue of skill acquisition: complex tasks in research now require formulating new approaches and creating ways of looking at the evidence in a case (Shavers, 2001: 411); technological innovations have not only created better opportunities for legal education with regards to access to a wide range of resources but have also made skills irrelevant to current information resources. In view of this, the concept of legal information literacy has become important as the best instructional approach to legal research and writing.

In reviewing the concept, it is difficult to state precisely its origin or coinage but as with other related concepts of information literacy reviewed within the literature, it applicably refers to the ability to find, use, analyse and critically evaluate legal information. Its uniqueness however lies within the disciplinary context of the legal profession itself, that is, the form, organisation, access and distribution of legal materials which intrinsically has been central to the development of law as a discipline. Hanson, (2002: 565), in an analysis of legal materials notes that in law, the principle of legal reasoning proceeds largely by drawing analogies between the past and the present; the doctrine of *stare decisis* emphasises finding cases that modify a principle, enunciate a new principle, settle a doubtful question or are distinctively instructive to serve as a precedent in solving a particular case: hence the volume of decided cases which may serve as potential precedents have contributed to the volume of the legal literature; managing legal information has thus constituted a daunting challenge. Further in his argument, he states that the invention of such systematised indexes and digests as the West-key number system, *Shepard's digest* and other case finding tools became necessary in order to provide a hierarchical arrangement and accessibility to resources; however, these information management techniques may have enabled access to resources but they do not contain the necessary evaluative component to aid the researcher in analysing the relevant information. It is within this

context that the concept of legal information literacy has become relevant to the study of law, particularly legal research.

Among legal practitioners and academics, there is a general recognition of a deficiency in the research skills of law graduates: however, the perception of the concept of legal information literacy, or the importance of information literacy in legal research, seems less evident; concerns to this problem have mostly been advocated by librarians who have noted a disparity between students skills and their ability to access information. These concerns are well founded as global economic conditions continue to require that law students are equipped with the necessary graduate skills in terms of efficiency and cost effectiveness in order to function in the legal workplace (Macoustra, 2004: 134). Peoples (2000: 293) notes that despite the increasing importance of information literacy and the fact that more than thirty academic disciplines have articulated information literacy competencies and learning outcomes specific to their disciplines, there has been little concrete discussion on the educational underpinnings involved in implementing an integrated information literacy programme for legal education. It has therefore become necessary that core standards and competencies be set for legal information literacy which can be integrated into basic research instruction. Cuffe's (2002) study relating students' experiences and the implications for legal education and curriculum development contributes to an understanding of the concept of legal information literacy; findings from the study shows that current legal curricula have not succeeded in the task of educating students to be effective in problem solving which is critical to the legal workplace. Andretta's study (2001) examines the development of an information literacy module for first year undergraduate students. This study also lends weight to the conceptual development of legal information literacy, particularly in Africa where it has not received much scholarly attention and is of interest to legal educators in reviewing the legal curricula and promoting lifelong learning in the educational experience.

4.6 Conclusion

This chapter analyses student perception of information literacy and the role of librarians and faculty in supporting educational reform in student learning; it also provides a historical overview of legal education in South Africa and Nigeria. The nature and extent of dissatisfaction with the research skills of law students demonstrate that the problem of skills deficiency predates the emergence of electronic resources or Computer Assisted Legal Research (CALR), although exacerbated and obscured by it (Callister, 2003: 9). The concept of legal information literacy has challenged the role of the librarian as an instructor and as the learned intermediary of legal information; librarians today must be poised to foster the development of students' abilities to conduct independent research especially in the electronic environment: they should take the lead in developing textbooks for the new legal information paradigm which can serve as a basis for restructuring the legal curricula through information literacy (Bintliff, 2007: 263; Peoples, 2000: 678; Keefe, 2005: 121).

CHAPTER FIVE
RESEARCH METHODOLOGY

5.1 Introduction

A research methodology as defined by Sarantakos (1994:30) is a model of theoretical principles providing guidelines for executing a specific project. The selected methodology for this research has already been outlined at the beginning of the study, however in this chapter an attempt is made to succinctly describe the various research processes employed in addressing the research questions within the context of the study as well as discussing potential pitfalls, problems and limitations of the research.

5.1.1 Quantitative and Qualitative research processes

Methodological considerations in research processes would usually involve the selection of either the quantitative or qualitative analysis depending on the method of data collection. Research processes in quantitative analysis employ standards of a strict research design that are deductive; the operationalisation of concepts helps to transform theoretical hypothesis to empirically testable propositions (Corbetta, 2003: 57). Qualitative research on the other hand lacks the precision and definition of quantitative methods, its processes are inductive i.e. theory formulation is grounded to the findings of the research which can be used to support, re-fine, compare or formulate new theories (Cresswell, 1994: 93; Sarantakos, 1994: 9). Fundamental problems of qualitative research however, are issues of validity and reliability, specifically, the question of the ability of the researcher to interpret events from the point of view of the respondent and the extent to which findings can be generalised; this challenge places a greater burden on the researcher to generate legitimate and applicable outcomes (Bryman, 1992: 72-74). For as much as this study typifies a qualitative research, it will seek to combine the attributes of both methods in order to obtain the desired outcomes.

5.2 Research Questions

Research is often provoked by the need to seek out new information into issues of interest and concern: this study seeks to investigate the implications of integrating information literacy within the curriculum of legal education and to re-enforce the importance of legal research as a key aspect of legal education. The study is limited to third year undergraduate law students; it is considered that this is necessary in order to determine the appropriate year level for which information literacy can be integrated into the curriculum. The following are the research questions that frame the study developed from a review of existing literature on the subject and from observations of experiences among undergraduate law students in both institutions:

- Does the structure of legal information provide special problems for the retrieval of information?
- How can the level of students' awareness in accessing and retrieving legal resources be evaluated?
- How are they able to use accessed information for problem solving?
- What is the perception of students of the importance of information literacy?

The study is limited to third year undergraduate law students for the purpose of determining the appropriate year level for which information literacy can be integrated into the curriculum.

5.3 Survey Population

A common mistake by most researchers is the failure to define the study population for which the research is undertaken. Defining the population is necessary in order to determine the feasibility of the field research; it provides the source from which the data is to be collected and also makes it possible for statistical inferences to be made from the target population (Sudman, 1976: 13-14). Babbie and Mouton define a population as:

> "The theoretically specified aggregation of the study element" (2001: 173).

The study population for this research are third year undergraduate law students of the University of Cape Town, South Africa and the University of Jos, Nigeria. It is important to clarify what defines the "third" or "intermediate" year levels in both institutions as there are major differences in the educational systems.

The University of Jos operates a five year academic programme for an LLB degree, the intermediate year of the degree is the "third year" or 300 level; upon completion of the fifth year, a student is expected to proceed for a compulsory one year study to be spent at the Nigerian Law School located in one of the four branches of the country Lagos, Kano, Enugu States and the Federal Capital Territory, Abuja for the bar professional examinations which enables him or her to practice as a solicitor and/or advocate. This legal educational system applies to all higher education institutions in Nigeria.

An LLB degree at the University of Cape Town can be undertaken by three main routes (University of Cape Town, Faculty of law student handbook, 2008: 39):

- Postgraduate LLB Extended Stream – This is undertaken after a student must have secured a bachelors degree in any discipline for which an average requirement of 65% is required for admission into the LLB programme. The third or intermediate year is the third year of law study i.e. "Intermediate level B" in this case.

- Four Year Undergraduate LLB Main Stream: A combined law and humanities or law and commerce route to LLB allows a candidate to complete a Humanities or Commerce major together with major courses in law which can be completed within two years in order to earn an LLB. The third year is also the "Intermediate level".

- Combined undergraduate/postgraduate LLB Main Stream: This admits mainly school leavers; the student undertakes a limited number of non-law courses which can be fitted into the curriculum. The intermediate year is at the second year of study.

In each case essentially, the quantity of the legal education offered by the faculty is formally identical. It is important to state that this educational system is unique to the University of Cape Town and may not be applicable to other universities in South Africa, for example, the University of South Africa (UNISA) which operates a modular system of legal education.

The choice of third year students for this study is for the purpose of:

- Determining the level of information literacy skills development at the intermediate level as it is expected that students are better able to assess their level of information literacy skills at this stage.
- Determining the importance of integrating information literacy skills in the general curriculum of legal education.

5.3.1 Sampling overview

A sample is a subset of the population by which the entire population can be analyzed; through sampling, an attempt is made to describe the sample selection process and provide adequate information of the link between the sample and the study. Sampling is necessary for the ease of investigation in a survey in the sense that it reproduces the characteristics of the survey population under examination on a smaller scale and the outlined research questions can be transformed into a feasible empirical study by which resources can be directed to improve the amount and quality of data on each individual (Henry, 1990: 11-12; Corbetta, 2003: 118).

5.3.2 Types of sampling

Sampling can be divided into two categories i.e. Probability and Non-probability sampling.

- Probability sampling methods provide every member of the population an equal chance of being selected within the sample frame; it ensures precision of calculated sample estimates. Probability sampling is considered to have a greater validity and credibility than non-probability sampling (Fowler,

1993:11). Examples of probability sampling are the random sample in which each member of a study population is assigned a unique identification number by which selection is made. Similarly, a stratified random sample divides the population into groups from which a sample is selected within each group to ensure proportional representation of the stratum (Fowler, 1993: 96, 99).

- Non-probability sampling refers to sampling approaches where subjective judgment plays a role in the selection of the sample; it is useful for collecting samples in studies of special groups (Henry, 1990: 17); quota sampling is an example of non-probability sampling. In quota sampling, the researcher tries to determine the proportion of the population by creating a matrix and assigning a cell to each cell in the matrix, the cells are then assigned a weight appropriate to their portion of the total population. However, determining the accuracy of the proportion of each cell may constitute a problem and the possibility of eliminating bias in the sample selection process cannot be guaranteed (Babbie, 1973: 107).

5.3.3 Sample size

It is usually difficult to determine the size of a sample, the adequacy of a sample is usually dependent on the details of its analysis, however, it should be sufficient enough to provide precise and reliable estimates for statistical analysis; larger sample sizes help minimize the risk of errors in the sampling frame (Henry, 1990: 117). According to Sudman (1976: 87) sample sizes can be determined by pre-pilot tests depending on the availability of resources to the researcher.

5.3.4 Sampling frame

A sampling frame is the actual sampling unit from which a sample is selected from the target population; it is usually drawn by obtaining a list of the survey population (Babbie & Mouton, 2001: 174). Sampling frames have inherent flaws which may be as a result of missing or duplicated elements within the list of the total population. According to Henry (1990: 88) the challenge of an efficient sampling method is the

aim to reduce total errors as this can have a bearing on the overall research design by causing bias and discrepancy in the sample and the survey population. Sampling error is the degree to which a sample may differ from the population, results in samples are often plus or minus the sampling error. In non-probability sampling, the degree to which the sample differs from the population remains unknown however probability theory makes provision for determining or estimating the degree of error that can be expected in a given sample design (Babbie & Mouton, 2001: 175).

5.3.5 Sampling method for this study

The sampling method employed for this study involved obtaining a list of the total number of third year undergraduate students who are registered at both institutions which comprised the survey population. Initially, it was decided that a sample of one hundred students be drawn from both institutions, while in-depth interviews will be conducted with legal practitioners and law librarians to provide a triangulated approach to the study and make up for gaps within the data collection process. Considering the characteristics and composition of the survey population, it is apparent that a random sample approach would have been appropriate for the sampling frame, however, the study as it were, dealt with a set of case studies for which the relevant number of the survey population was considered small hence a census of the entire population was conducted. Sampling processes can be omitted in such cases as it may reduce the credibility of the results; data collection can be undertaken from the total population in order to improve the reliability of the data (Henry, 1990: 14; Burton, 2000: 307). The "triangulated" approach was limited to some discussion with senior legal practitioners and could not be accomplished as systematically or fully as originally planned because of non-availability of suitable interviewees. Validity and reliability of the data collection instrument were assumed, because of its successful use by other researchers, but not explicitly tested.

5.4 Research methodology

A research methodology within the context of any study provides a systematic outline for linking the data to the initial research questions (Yin, 2003: 20). In analyzing a research method, it is necessary to discuss some of the issues associated with conducting the chosen research strategy which is the case study method. Yin (2003: 13) defines a case study as

> "An empirical enquiry that investigates contemporary phenomenon within a real life context when the boundaries between the phenomenon and context are not clearly evident and in which multiple sources of evidence are used"

Case studies are usually defined in terms of their operation within the context of a particular topic and as noted by Punch (1998: 150), they aim to have an understanding of a particular situation within its natural setting and in terms of its complexity and context. It is sometimes considered a strategy rather than a methodology in the sense that its processes often employ a holistic approach in order to preserve and understand the wholeness and unity of the case in question (Robson, 1993:147).

5.4.1 Types of case studies

There are divergent views as to what constitutes a case, however; Stake (2000: 437) identifies three types of case study research.

- The intrinsic case study which is undertaken to understand a specific case.
- Instrumental case study where a particular case is examined for the purpose of providing insight into an issue or to refine a stated theory. The present study is an example of the instrumental case-study.
- Collective case study where the instrumental case is extended to cover several cases in order to understand a phenomenon, a population or a general condition.

In case study research, multiple methods of data collection can be employed, they allow for little quantification or generalizations and are considered valid forms of inquiry for descriptive and evaluative studies; they have often been used to foster development in organizational and educational research (Sarantakos, 1994: 260; De Vaus, 2001: 219). Case studies are conceptualized as relating more to qualitative studies particularly participant observation and structured interviews; their applicability in a given context lies in their ability to serve as building blocks for data collection and analysis (Burton, 2000: 215). The type of case study adopted depends on the range of issues to be analyzed with regards to the research questions; the unit of analysis most often defines the nature of the case study i.e. descriptive or exploratory case study.

As noted by Babbie and Mouton (2001: 281), case studies involve the examination of multiple variables and the interaction of the unit of analysis with its context forms a significant part in providing an important perspective on the case which leads to the identification of the contextual variables that influence the unit of analysis. The amount of data to be processed in case study research makes its analytical strategies a challenge as it requires the development of clear conceptual categories for explaining patterns of phenomena and the context in which they appear. Generalizability can be shown by drawing similarities between findings and previous knowledge thus increasing the potential of developing theoretical propositions. The choice of a case study method in conducting this study is based on the fact that it is found to be more appropriate to the research purpose and the contextual conditions of the study. Considerations for its preference are based on the fact that despite the effectiveness of the survey method in dealing with such studies, limitations can be experienced in thoroughly investigating contextual issues (Yin, 2003: 13). Secondly, a justifiable rationale for adopting this strategy is that case studies are highly specific to the research topic and data generated will provide a basis for further inquiry and the development of grounded theory (Burton, 2000: 215).

Issues of representativeness have always been questioned with case study methods especially with regards to the extent to which findings can be generalized beyond the specific study in question. However, according to Punch (1998: 155), generalizable results depend on the purpose of the case through its conceptualization and process of

data analysis by which findings from a case can be put forward as being potentially applicable to other cases; developing abstract concepts and propositions raises the analysis above simple descriptions and in this way, a case study can contribute potentially generalizable findings. Burton (2000: 224) and Yin's (2003: 10) views also buttresses this point when they suggest that studying more than a single case provides a robustness to the findings whereby results obtained can be compared and contrasted for generalizations and formulation of theoretical propositions. The researcher concurs with these views with respect to this study in the sense that the multiplicity and diversity of the institutions under consideration can generate data that can provide useful insights to similar situations especially with regards to challenges in integrating information literacy into the curriculum and the development of institutional standards. Secondly, the leverage provided by case study techniques enables the adoption of a triangulated approach to data collection which pre-disposes the researcher to pursue a particular strategy in the course of investigation regardless of the research question (Yin 2003: 7-8). Othwaite and Turner in their analysis of the conventional critiques of case study methods observed that:

> "The development of theory and empirical generalizations is a collective enterprise; no individual project has to cover all possible ground in order to make a useful contribution to that. Central themes running through the discussion can be identified as the choices of depth and qualitative richness of data over breadth and statistical representativeness of treating social units holistically rather than in terms of variables counted across individuals, and a rejection of the idea that worthwhile research must of itself test general explanatory hypotheses." (2007: 114).

Hence, even though a case study such as this may be lacking in external validity, internal validity can be achieved by providing a profound understanding of the specific case from which inferences can be made to related cases.

5.5 The case studies

The focus of this study from the onset was to explore the relevance of information literacy in the context of legal education; it aims to contribute to existing research to the concept of legal information literacy particularly in legal education in Africa. The impetus to conduct this study is an outcome of a two-week internship programme undertaken by the researcher at the Brand van Zyl law library of the University of Cape Town, South Africa in July 2005. As the law librarian of the University of Jos library, the aim of the internship programme was to under-study the University of Cape Town law library's approach to electronic resources and legal research training; the programme revealed a major gap in the research skills of undergraduate law students of the University of Jos in comparison to students of the University of Cape Town in terms of information skills acquisition, resource awareness and self-directed learning. The challenge to undertake this study therefore, is borne out of the desire by the researcher to investigate problems of poor information literacy skills among undergraduate law students of the University of Jos with a view to seeking a better understanding of the context to which information literacy education can be integrated into the curriculum of legal education and the need to improve practice in the execution of information literacy instruction in higher education institutions in Nigeria. It is considered that in an instrumental case such this, the potential to examine the case in-depth and to provide useful comparative insights is enormous especially with regards to the possibility of influencing policy decisions on issues of information literacy and legal education in Africa.

5.5.1 The Brand van Zyl law library (UCT)

The history of the Brand van Zyl law library dates back to 1949 from a donation of legal collections to the faculty by Major Gideon Brand van Zyl after whom the library is named (Brey, 2005: 162). The collection, which initially comprised mainly materials on the Roman-Dutch law, has today grown to a total collection of over 85,000 volumes of books and journals. The library has a formidable collection of foreign, international and comparative law report series and a database subscription to

over thirty electronic resources, mostly full text databases of Westlaw, LexisNexis professional, Hein Online and other indexing databases such as the *Index to legal periodicals* and *Index to foreign legal periodicals* as well as local databases such as LexisNexis Butterworths and Jutastats (Brey, 2005: 163).

5.5.2 User services:

The library has a seating capacity of 275 study spaces at 3.4 per student study space; it is equipped with over 80 computers with internet connection, networked printer and laptop sockets points. Access to the library is restricted to the staff and students of the University while limited services can be provided to students of other South African universities and legal professionals. Reference services emphasize independent research thereby encouraging the development of needed research skills; formal legal training is offered to LLB law students at the first year of the degree to increase awareness of resources and the meet research needs of students (Brey, 2005: 165). The introduction of the interactive web-based tutorial using the Computer Assisted Legal Instruction (CALI) authoring software compiled by staff of the Law Library and academic faculty has improved the learning experiences of students and the development of better research skills. The tutorial training is a compulsory credit-earning course which exposes students to a full range of possible resources that they may find useful in research. Co-operative initiatives between UCT and other research institutions and organizations, such as the Information Transfer Network (ITN) funded by the Starr Foundation, have also been beneficial towards collection development and helping to establish a global network for virtual reference service (Brey, 2005: 166).

5.5.3 University of Jos law library (UJ)

The law library of the University of Jos was established as a branch library in 1993 with an initial collection of about seven thousand comprising of books and journals. The decision to separate it from the main library was part of the aims of the library administration to ensure a high degree of relevance of its collection to the needs of the teaching faculty by making its resources an integral part of the learning process and offering high-quality reference services. The English Common law tradition forms a

substantial part of the Nigerian legal system by virtue of its colonial history, hence most of the law library collections reflect this affiliation; sources of Nigerian law include the constitution, legislations, English law, Customary law, Islamic law and judicial precedents. A collection of foreign, international and comparative law is also available. Most journal subscriptions consist of local law reports which include (but are not limited to) - Nigerian weekly law reports, Law reports of the courts of Nigeria, Sharia law reports, Judgments of the courts of West Africa, Quarterly law report and so on. Secondary sources consist of textbooks published by academics and other legal professionals.

5.5.4 User services

In comparison to UCT law library, the law library of the University of Jos is relatively small with a seating capacity of 60 students which by international standards is inadequate to the over 2,000 registered students of the faculty. Access to the library is restricted to the staff and students of the university and visiting law students from other Nigerian universities. Formal training in the use of library resources is offered to students at the first year of studies: this training, known as General studies, is a course in bibliographic instruction on the general procedures of library research and is often not discipline specific. A library booklet entitled as "Know your library" is also given to students as guide to the research process (University of Jos library use of library GS 001, 2000: Lecture 1).

The application of Information and Communication Technology (ICT) to service provision since its introduction to the university in 1995 has greatly improved service delivery and sustained research activities among students and academics. The generous donation of $2 million (USD) by the Carnegie Foundation to the University for the period 2003-2006 helped with further developments in ICT specifically for the law library as it facilitated the establishment of an online legal research library (the first among Nigerian universities) equipped with twelve computers networked with sockets points for laptops and a printer and managed by six interns, mostly fourth and final year students of the faculty. The grant enabled the library to subscribe to legal electronic databases such as Westlaw, LexisNexis and Hein Online, which was an invaluable addition to its limited resources, especially for foreign and comparative

law. However, the purchase of these databases also created a greater challenge for information literacy with regards to research and evaluative skills. As noted by Power (2007: 18), user statistics showed that not many of the students were skilled in the use of these resources, the lab interns who were to serve as assistants assumed an "intermediary" role by performing searches on behalf of the students for a minimal fee. This situation further compounded the problem of poor research skills for which the integration of information literacy into the curriculum of legal education has become a necessity in order to address problems of skills deficiency.

In a comparative analysis of both cases, it is apparent that the institutions are at various developmental stages especially with regards to level of automation, ICT and access to information resources. The University of Cape Town libraries particularly has been able to place a significant amount of their resources online and this has immensely contributed to the educational mission of promoting critical thinking abilities among students. By contrast, 90% of the information resources at the University of Jos libraries are yet to be automated, the introduction of the legal electronic databases to the law library has encouraged a positive attitude towards research among students, the challenge however, remains the need to develop the research skills of students by integrating information literacy into the curriculum as is the case with UCT. This is not to suggest however, that differences in automation or accessibility to information resources are conditional to successes in information literacy but rather, it is anticipated that through a comparative case study of both institutions, analysis of data from the research will enable results to be compared and contrasted and generalizations made from the results that will be beneficial to both institutions regarding issues of integrating information literacy to the curriculum of legal education.

5.6 The research instrument

There are a range of data collection methods available for conducting research; a major consideration for the researcher in the choice of an appropriate method is the research questions which the study seeks to address and how the chosen data collection technique can deliver the desired outcome, this is because findings of research can be affected by the nature of the data collection method which in turn can

affect the validity of the research (Burton, 2000: 320). In selecting the appropriate method therefore, the researcher must weigh the advantages and disadvantages of each in relation to the general methodology; a cautious approach is to employ a triangulated method in order to ensure a consistency to the findings of the research as well as compensate for their limitations (Powell, 1985: 83-84).

The most commonly used data collection methods in survey research are interviews, questionnaires and observations (Powell, 1985: 83).

- Interviews are considered one of the most effective ways of enlisting co-operation from a study population; they provide the opportunity for the researcher to observe, establish rapport with respondent and build up contextual analysis to a study. Interviews are preferable for answering open-ended questions and the format and wording of the questions define the structure of the interview. One of the major problems with interviews however is the issue of lack of standardization in the data collection process which makes it highly vulnerable to interview bias (Burton, 2000:323; Frankfurt-Nachmias & Nachmias, 1992: 224).

- Questionnaires as defined by Babbie and Mouton (2001: 233) are a collection of questions which enable the researcher to determine the extent to which a respondent perceives a particular issue. According to Fowler (1993: 94), designing a good survey instrument such as a questionnaire involves selecting the questions needed to meet the research objective, testing them to ensure their validity and organizing them in a form that elicits the required responses. Well designed questions provide reliable and valid measures for data collection; a number of criteria determine the nature of the questions contained in a questionnaire, especially those relating to their relevance to the research questions, their approach, structure, content and wording with regard to the type of responses required (Sarantakos, 1994: 162).

Having taken into consideration the various methods, the advantages they offer and the weaknesses they demonstrate, it is the view of the researcher that administering a structured questionnaire would be a suitable tool for data collection. Interviews were

recognised as a powerful technique of investigation but were considered unrealistic to conduct given the time constraints.

5.6.1 The questionnaire

An important factor to consider in constructing a questionnaire is the structure of the questions and the format of the response categories accompanying the questions. There are two types of questions format:

- Open-ended questions: These enable the respondents to provide their views through a provision made for written responses: no specified choices are given. This question structure is mostly used to study public opinion; the advantage is that the respondent is not forced to adapt to pre-conceived answers. Answers to open-ended questions allow complex motivational influence and frames of references to be identified (Foddy, 1993: 131). However, Frankfurt-Nachmias and Nachmias (1992: 245) note that though open-ended questions can be easy to answer and analyze, a coding system can reduce specificity in the process of analysis.

- Close-ended questions: In close-ended questions, a list of answers is provided from which the respondent selects the one that closely represent their views. The response categories are usually exhaustive so that the respondent is not compelled to select more than one answer (Babbie & Mouton, 2001:233). However, in this format, the tendency to introduce bias cannot be eliminated as the questions may force the respondent to select from the alternatives that may not have come to mind (Frankfurt-Nachmias & Nachmias 1992: 243).

The choice of the type of questions depends on the objectives of the questionnaire, the types of respondents and their motivation, method of administration and the availability of time. It is important in each case to consider the competency of the respondent in providing reliable information for the questionnaire (Babbie & Mouton, 2001: 233). Similarly, the wording of the questionnaire plays a central role in the

respondents' answer: considerable attention must be given to develop clear, unambiguous and useful questions; each question must have a consistent meaning to all respondents in terms of the perception as to what constitutes an adequate answer to the question (Fowler, 1993: 77).

5.6.2 Response format and layout

The questionnaire is a translation of the central issues of the research topic; it is therefore important that the general model of how the questions are placed within the context of the questionnaire reflects a logical arrangement of the questions proceeding from the simple to the complex and the general to the specific. The questionnaire should include an introductory letter stating the research topic to the respondent and an assurance of confidentiality to all responses (Sarantakos, 1994: 159). Specific instructions should be provided to facilitate correct answers to questions requiring detailed answers especially when a given question varies from the general instructions pertaining to the questionnaire. Questions which use ranking devices such as matrix and Likert response categories may help to reflect the intensity of the respondents' judgment of a particular question: these require careful explanations to the respondent (Frankfurt-Nachmias & Nachmias 1992: 242). It is important also to provide an added category for "other" or "please specify" or "don't know" response. According to Burton (2000: 335), in order to design a reliable research instrument it is important for the researcher to maintain a consistent approach to measurement by asking the same questions which can be recorded in a systematic way; random errors are introduced when measurement is less precise and can be reflected in the inconsistency of responses. Questionnaires must therefore be designed to maximize reliability and validity (Fowler, 1993: 70, 80).

5.6.3 Research instrument for this study

Designing a standardized questionnaire for this study involved a consideration of the various aspects of the study in terms of the geographical boundaries, the legal systems operating in the two countries, the institutional context to which the study applies and the homogeneity of the study population. A comparative case study of this nature requires undertaking an approach in the data collection that is aimed at obtaining

factual information and concrete expression of opinions to the issues concerned. As has already been stated from a review of the related literature, issues in legal information literacy especially with respect to undergraduate education have not received adequate attention; anecdotal evidence from studies by Kerins, Madden and Fulton (2004), Andretta (2001) and Cuffe (2002) have illuminated the diverse experiences of law students with regards to information literacy in various countries and highlighted the importance of integrating information literacy into the curriculum of legal education.

In the attempt to design the research instrument for this study, due consideration was given these studies, from which much insight was gained as to the format and structure of the questionnaire. A careful examination of Cuffe's (2002) study in particular revealed a similarity to the institutional and comparative context of this research. Her study presents findings of a survey of existing skills training of undergraduate law students in three different universities in Australia, namely Queensland University of Technology (QUT), University of Queensland (UQ), and Griffith University (GU). The study revealed that the curriculum of legal education in Australia had not succeeded in the task of educating students for effective problem solving in legal practice and suggests principles for alternative curriculum models that would strengthen educational lifelong learning in legal education (Cuffe, 2002: legal information literacy curriculum model and assessment). The survey instrument of the study exhibits a close affiliation to this research in terms of the need to determine law students' level of awareness of available resources as well as test their problem-solving and critical thinking skills. The comparative nature of the study also shows the efforts to test graduate attributes and this can offer insights into transferability to the workplace environment; consequently, it was felt that despite the differences in geographical boundaries, the survey instrument is relevant and appropriate and could be adopted for this research. Thus contact was made with Natalie Cuffe through her supervisor Professor C. Bruce from whom the survey instrument was obtained.

The questionnaire consisted of four sections, the first section required information on demographic details such as age group, gender, status of degree, i.e. part time or full time, and grade point average (GPA). The second section sought information on the extent of use of information and information technology, specifically the nature of

access to a range of information technology, frequency of use and level and nature of legal research training received. Questions in the third section required responses on the nature of use of information and information technology by completing a range of tasks aimed at assessing level of skills. The fourth section comprised a test to verify answers to questions in earlier sections of the questionnaire (Cuffe, 2002: designing and conducting the survey).

In adopting the questionnaire, critical changes were made to questions in section three in order to adapt the questions to be relevant to the legal systems of South Africa and Nigeria; other questions were well suited to the research. The administration of the questionnaire involved a pilot stage to test the instrument. Pilot studies are useful for determining the adequacy of the sampling frame, assessing the rate of non-response, evaluating the suitability and effectiveness of the data collection method and in order to establish the adequacy of the questions in terms of comprehensiveness by respondents. Piloting can also help the respondent to evaluate the layout of the questionnaire, assess the timing for completing the questionnaire which also will help provide an estimated time for the data collection phase (Burton, 2000: 345). Each section of the questionnaire is designed to elicit responses for addressing the research questions. Responses to Sections 2 and 3 for example, will enable the researcher test students' skills competency in the use of information resources which are appropriate for answering questions 1 and 2 while responses to Sections 4 and 5 will provide insight to research questions 3 and 4.

5.6.4 Piloting the questionnaire

The questionnaire was piloted on the 5th March 2007; it was issued to third year undergraduate law students of the University of Cape Town. Five questionnaires were administered, four were returned, one was incomplete and one copy was misplaced. These are some observations from an analysis of the responses:

Section one: Demographic details

All were full time female students between the ages of 19-25. They were able to provide their Grade Point Average (GPA) and to some extent this seems to reflect in their responses.

Section two: Extent of use of Information and Communication Technology.

All used the library almost daily and nature of access to computer facilities were mostly at the university except for one respondent who has access at home. In assessing their level of success in the use of resources, all four rated themselves as always successful or usually successful. However responses to the following questions were either "seldom successful or not used at all" which seem to suggest that the questions were either not understood or may need to be rephrased. Task success in the use of:

- Hansard.
- Searching Full-text CD-Rom Databases of cases.
- Finding treaties to relating to South Africa/Nigeria.

Section three: Analysis of research problem.

All four were able to write in three key words and one listed only two in each question, all were correct. Only one respondent was able to get the accurate step in locating an Act. This is quite surprising because the question was taken from the online legal tutorial offered as a compulsory course to new students. It was noted also that in responses to question four, all ticked the internet as the last step to researching a problem. Only two accurate responses were recorded on the question of the use of print resources i.e. Annotations and Citation indexes.

Section four: Nature of legal research training received.

All four responded that they had received legal research training of a compulsory nature. Only two responded to being taught how to use all resources while two responded that they had not received any training on the use of CD-Rom (LexisNexis, Westlaw & Hein Online. Three responded to being taught by librarians, lecturers and peers while one responded to being self-taught.

Section five: Perception of legal research training.

Three responded that legal research training should be compulsory with web-based teaching materials and library exercises as the method of assessment and one

respondent preferred that it would not be graded. On the preferred position of legal research and ICT training, two responded that it should be integrated into another first year course while one preferred that it should be a separate first year course, one respondent abstained. Two rated their library and ICT skills as excellent while one respondent responded to be good enough, one abstained. Three felt legal research is important to the practice of law, one abstained. No comments or suggestions were offered.

Generally, the instructions seemed well understood and from observations of responses received, the questionnaire is appropriate in assessing the level of information literacy of undergraduate law students. Little defects were noted with the questionnaire; specifically, it was felt that an analysis style should have been built into the instrument especially for qualitative questions to facilitate easy analysis of the data (Babbie & Mouton, 2001: 412). However, as an already tested instrument, the questionnaire provides the opportunity for comparison with other studies and specifically also that findings may suggest that legal information literacy may best be integrated into the curriculum and offered from the first year of the undergraduate law programme.

In adopting or replicating a survey instrument, the degree of similarity of the studies in question is of crucial importance as it raises concern on the issue of external validity with respect to achieving consistency with the results of the original study. Replication can provide for validity to the extent that the results are in agreement with the findings of the original study, otherwise they may create doubts as to its internal validity (Neuliep, 1991: 5, 32). The risk of applying questions used in a different setting is that they may not prove as productive when applied in another context. It is therefore necessary that the researcher includes some additional questions as an indication of the originality of the research (Burton, 2000: 344). It is the view of the researcher that adopting this research instrument will serve to corroborate findings to other researches in information literacy and legal education and enable us to establish the specific nature of the challenges of integration and/or relationships experienced by higher education institutions, as well as emphasize the need for establishing benchmarks for developing institutional standards particularly in Africa.

5.6.5 Questionnaire administration

The questionnaire at the University of Cape Town was administered on April 18th 2007 to a class of intermediate year undergraduate law students. Permission was earlier sought from the Dean of the Faculty and the intermediate year coordinator who advised that the questionnaire was best administered during a class session in order to obtain a representative number. The class consisted of about one hundred and fifty students; one hundred and fifty questionnaires were administered to students on ground out of which only forty four responses were retrieved. Administering questionnaires to students at the University of Jos Nigeria was delayed due to the industrial action embarked upon by the Academic Staff Union of Nigerian Universities (ASSU) between April – June 2007; for this reason, the researcher had to suspend the administration of the questionnaire until the full resumption of academic activities in the institution before undertaking the research. However, with the permission of the Dean of the Faculty of Law of the University of Jos, the questionnaire was also administered to class of 150 students on the 17th of November 2007. One hundred and fifty questionnaires were administered and a total of ninety two were returned.

In each case evidently, the response rate was affected by the timing of the administration of the questionnaire: for UCT students, the timing coincided with the period preceding first semester examinations when students have to contend with handing in assignments and preparations for the examinations and this gravely affected the return rate of the questionnaire despite the fact that careful instructions were given as to where and how the questionnaires were to be returned. At the University of Jos, the unstable nature of the academic calendar made it difficult to determine an appropriate timing for administering the questionnaire; with the resumption from the industrial action by the staff of the University, the speedy attempt to make up for lost time meant that students were under pressure to meet up with academic demands. In all, a response rate of 29.3%% was recorded for students at the University of Cape Town while 61.3% was recorded for students of the University of Jos.

5.7 Conclusion

This chapter presents the research methodology adopted for the study. According to Stake (2000: 448) the major conceptual responsibilities of the qualitative case study researcher are: Bounding the case, i.e. conceptualizing the object of study, selecting the phenomena, themes or issues, seeking patterns of data to develop issues, triangulating key observations and bases of interpretation, selecting alternative interpretations to pursue and developing assertions or generalizations about the case.

It is anticipated that the selected methodology for this study will seek to identify the concept of information literacy as it exists in particular cases in higher education institutions with the hope that valuable knowledge can be drawn from the findings of the research which will further strengthen the experience of practitioners as well as policy makers.

CHAPTER SIX
DATA ANALYSIS

6.1 Introduction

In presenting the data analyses for this study it is important to state that although the thesis has not specifically examined *methods* of teaching legal information literacy, it is an important consideration for appreciating the context of the problems being studying.

The process of analysing data involves an attempt by the researcher to describe and reconstruct the data in a recognisable form for the people being studied (Maykut & Morehouse, 1994: 122); a detailed description of the research process provides a basis for judging the credibility of the research findings which increases or decreases the reliability of the study. In this chapter, the researcher will seek to describe outcomes from the analysis of the study from which theory and propositional statements can be developed. However, the circumstances under which the survey was conducted precluded the possibility of using a true random sampling approach, it should therefore be noted that results of this study may not be generalisable to other contexts but are limited to the case studies in question though they may suggest lines of later enquiry of a more general kind.

6.2 Method of analysis

Choosing a methodology for data analysis requires a clear understanding of the complexity of the research questions which will dictate the type of analysis that could be adopted (DeVause, 2002: 203). Qualitative data analysis seeks to understand the phenomenon being studied; the chosen approach will depend on the level of interpretation applied to the data and the methodology employed in conducting the analysis. Data analysis in qualitative research is often non-mathematical; it involves a process of examining the meaning of the respondents' words and actions from the findings inductively derived from the data.

6.2.1 Deductive and inductive approach to data analysis

In deductive approach, hypotheses are developed at the beginning of the study by which data is collected. In inductive approach however, data are collected that relate to the focus of inquiry; hypotheses are not generated at the beginning and the data are not grouped according to pre-determined categories rather, what becomes important for analysis emerges from the data itself out of a process of inductive reasoning (Maykut & Morehouse, 1994: 127). The process of generating ideas through data requires an innovative approach to data selection and analysis. In analysing qualitative data, it is necessary constantly to look for patterns and regularities that emerge from the numerous observations made in the course of fieldwork in terms of the structure, causes, processes, consequences and strategies (Frankfort-Nachmias & Nachmias, 1992:248).

Elements of a grounded theory approach have been adopted in the data analysis and interpretation. In grounded theory approach, the researcher first develops conceptual categories from the data and then makes new observations to clarify and elaborate these categories, concepts and tentative hypotheses are then developed from the data while analytic induction begins with a tentative hypotheses explaining the phenomenon; a small number of cases are then carefully observed in order to verify the hypotheses (Frankfort-Nachmias & Nachmias, 1992:284). Essentially, the categorisation process begins by identifying codes within the data which relate to a common theme, these are then grouped or classified together to enable the researcher develop a set of criteria from which observations from the data can be distinguished as similar or related. Classification is an integral process of analysis as it lays the foundation upon which interpretations, explanations and meaningful comparisons between the data can be made; concepts which emerge from these classifications are then categorised systematically.

Categories denote bits of data which can be counted, enumerated and analysed statistically, they are the conceptual building blocks from which theoretical propositions can be developed. Creating categories is a disciplined approach which helps to provide a focus for the analysis; distinctions within the data can help generate

categories or contribute significantly to refining or modifying the original categories (Dey, 1993: 40-44). Exploring the relationships and patterns across categories or the process of "linking" the data involves an examination of the propositional statements that have emerged from the process of analysing the data which would ultimately contribute to an understanding of the focus of inquiry (Maykut & Morehouse, 1994: 143).

6.3 Overview of analysis and presentation

The process of analysis for the two data sets for this study involved entering the data into a Microsoft Excel program from where a careful analysis of each question was undertaken to produce the desired results. A univariate technique was chosen for analysis in some of the questions by which one variable, that is, the Grade Point Average (GPA), was selected for analysis for the purpose of producing an outcome that reflects the general performance of the respondents in relation to their information literacy skills. By way of explanation, the Grade Point Average (GPA) is a standardised evaluation of a students' performance which can be expressed in a numeric form; it varies according to a countries' and sometimes institutional standards. In UJ it ranges from a scale of 1-5, in UCT however, the concept is not in regular use hence many students may not be familiar with it.

The methodology employed a descriptive statistical approach by which patterns that emerged from the data are summarised in a tabulated form in order to provide a coherent and straight forward picture of the data (Strugwig & Stead, 2001: 158). In creating the categories for this study, due consideration was given to the type of data as well as the comparative nature of the study, it was therefore necessary that the categories created should allow for the data to be compared and inter-related in order to produce a more encompassing analysis; consequently, the research questions provided a source of guidance for developing the categories as they appropriately reflect the aims and objectives of the research (Dey, 1993:97-99). The categories include:

- Category 1 – Demographic information.
- Category 2 - Extent of use of information and information technology – (Questions 2-4).

- Category 3 - Research Problem – (Questions 5-9).
- Category 4 – Legal research training – (Questions 10-13).
- Category 5 – Perception of legal research training – (Questions 14-22).

According to Dey (1993: 97, 105), it is important that categories are not made too broad as this would limit the possibility of useful comparison.

The structure of the research instrument comprised of five sections, the type of the question determined the response format, however, each section had a combination of a "tick the box", matrix grid and multiple choice answers as options.

- Section one required information on the demographic details of respondents, the response categories included a "tick a box" format with matrix grid from which selections were made. The context of the questions in this section is to provide the researcher with a demographic information of the students i.e. age, gender, term of study and Grade Point Average (GPA); the essence of this is to determine the appropriate variable by which the questions were to be analysed; the GPA in particular was needful in determining students' perception of their information literacy skills which is indicative of their general performance.

- Questions in section two sought responses on the extent of use of Information and Communication Technology (ICT) by students in terms of their level of efficiency in accessing online information and their experiences in successfully performing certain IT tasks. The range of responses included: Question 1- almost daily, once a week, several times a month, several times a semester and never; question 2- Accessible, not accessible; question 3- Daily, weekly, occasionally, never, don't know, no response; question 4- Always successful, usually successful, seldom successful, not used at all, don't know and no response.

- The context of the first set of questions in section 3 was to enable the researcher to assess respondents' ability to create appropriate search terms in

the course of legal research, the question is specifically designed to verify responses to the task analysis in section two. Three questions were asked for which respondents were required to provide at least three appropriate terms they would use in a keyword search. The range of responses in questions 6 and 8 in the section also requested respondents to select from the provided options the order in which they would follow in the process of research; the correct order expected in question 6 is steps 1, 2, 4, and 3 and a, d, c, and b in question 8. The aim of this is to evaluate their preferences and information seeking behaviour in the course of research.

- In section 4 respondents were asked of the nature of legal research training they had received at each year level. This question necessarily reflects the content of legal research training offered at the law school and its level of progression; the range of responses provided a matrix grid box by which respondents were to tick either yes, no, no training at all or don't know.

- The context of questions in section 5 was to determine students' perception of the importance of legal research training to legal profession, multiple choice answers were provided for respondents to select, provision was also made for "any other comments".

Each section of the questionnaire was designed to provide appropriate responses for answering the research questions.

A total of 150 questionnaires were distributed to each institution of which 44 were retrieved from the University of Cape Town (UCT) and 92 from the University of Jos (UJ). The percentage breakdown of responses showed 29.3% for UCT and 61.3% for UJ. An analysis of the demographic information supplied by the respondents reflect that majority were between the ages of 20-25, UCT 55% and UJ 42%; 57% of the students surveyed at UCT were females to a minority of males (48%) in UJ. Respondents from UCT indicated their Grade Point Average (GPA) to be within the range of 5.1-6 while UJ students ranged from 4.1-5. Respondents were mostly fulltime students. The results for UCT are presented first followed by a separate section for UJ and a final section compares and contrasts the two.

6.4 University of Cape Town (UCT)

Demographic information

Gender	Count	Percentage
Female	28	64%
Male	16	36%
Total	44	100%

Age distribution	Count	Percentage
Under 20	1	2%
20-25	40	91%
26-29	2	5%
30 and above	1	2%
Total	44	100%

Grade Point Average (GPA)	Count	Percentage
3.1-4	1	2%
4.1-5	5	11%
5.1-6	6	14%
6.1-7	9	21%
Don't know	23	52%
Total	44	100%

Analysis of the demographic information for UCT indicates that there is a preponderance of female students in the group which is cohesive around the age group of 20-25. Similarly, responses to questions on the Grade Point Average (GPA) shows that 52% do not know their GPA, perhaps indicating it is not a concept that is much used at UCT.

A. Section 2: Extent of use of information and information technology

B. Use of Law Library	Total responses n=44	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Almost daily	24	1	4	4	7	8
Once a week	10	0	0	2	1	7
Several times a month	9	0	1	0	1	7
Several times a semester	1	0	0	0	0	1
Total	44	1	5	6	9	23

Table 1 question 1: Use of law library

This result indicates that the majority of those surveyed used the Law Library almost daily or once a week. Of those who knew their Grade Point Average (GPA), the higher grades (5.1-6 and 6.1-7) are associated with greater use of the Law Library. Whilst this indicates use of the facility, it does not necessarily mean that *purposive* use of the collections is being made: some respondents may have been using the Law Library as study space.

Availability of IT facilities n=44	Home	University
Computer	40	44
World Wide Web	40	44
Email	40	44
Word Processor	40	44

Table 2 question 2: Extent of use of information technology

Table 2 above presents analysis of **question 2** of the nature of access to information technology resources available to the students at home and at the university. The result indicates that the majority of respondents had access to IT facilities at home, and all had access at the University of Cape Town.

	Daily	Weekly	Monthly	Occasionally	Never	No response	Total
Computer	44	0	0	0	0	0	44
World Wide Web	42	2	0	0	0	0	44
Email	39	5	0	0	0	0	44
Word Processor	31	13	0	0	0	0	44

Table 3 question 3: Frequency of use of information technology

Table 3 question 3 analyses the frequency of use of information technology by students with respect to nature of information technology resources, responses show a high level of use of information technology on daily and weekly bases. This indicates that all respondents made use of standard ICT facilities on at least a weekly basis.

The task analysis of **question 4** shown in **table 4** below required respondents to rate their level of success in performing the legal research activities listed below; the

results show their approach to the use of legal information resources both print and electronic as well as a perception of their acquired skills.

4. Task analysis	Always successful	Usually Successful	Seldom Successful	Not used at all	No response	Total
Using word processor	43	1	0	0	0	44
Downloading information from WWW	29	14	1	0	0	44
Using email	33	9	2	0	0	44
Using S/African sources	3	16	6	14	5	44
Using case citators	13	24	1	1	5	44
Using library catalogue	14	23	2	4	1	44
Evaluating legal information	5	25	4	6	4	44
Listing keywords for research	11	20	7	2	4	44
Finding 2nd reading speeches in Hansard	0	6	4	11	23	44
Finding treaties relating to S/Africa	9	16	4	7	8	44
Using CD ROM databases of cases	10	11	5	8	10	44

Table 4 question 4: Task success in use of information technology

It is noted that results from the analysis seem to indicate higher success rates with using general applications than with more cerebral processes such as "using South African sources" and "evaluating legal information"; similarly, the responses to "finding second reading speeches in Hansard" indicated a lack of awareness of the material or of its importance in legal research.

6.4.1 Sections 3-5

A. Section 3: Research problem

This section presented respondents with a set of questions which required that they input at least three keywords or more that they would use in researching the answer to the research problem; the essence of this task is to test the students' ability to create search terms in the process of research. The context of the question allowed for respondents to supply as many keywords as possible. The categories for an accurate response which could be determined from the questions were listed separately by the researcher from which respondents were graded for accurate keywords supplied, for example, 5 (accurate keywords or more) = very good, 4= good, 3= average, 2=poor, 1 or none = very poor.

5a. Conditions of amnesty – NUR Act 1995	Total responses n=44	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Average	8	1	1	0	3	3
Good	11	0	0	1	2	8
V. good	17	0	3	3	3	8
Poor	4	0	1	2	0	1
V. poor	4	0	0	0	1	3
Total	44	1	5	6	9	23

Table 5 question 5: Research problem

An evaluation of one of such questions above shows that those within the GPA of 6.1-7 recorded a higher accuracy in creating search terms which is indicative of the level of their research skills.

Questions 6, 7 and 9 required participants to conduct three tasks associated with creating search statements. The researcher graded the results of each participant, using a scale of Average, Very good, Good, Poor and Very poor.

On **Question 6**, 30 of the respondents achieved results in the Average, Very good and Good grades; 14 of the respondents in the Poor or Very Poor grades. It is noticeable that as respondents moved to **Questions 7 and 9**, those who had been graded as Very poor on Question 6 tended to have a consistently Poor or Very poor performance, suggesting a systematic weakness in conducting these tasks. Those with an Average grade for Question 6 tended to maintain their performances, with Very good or Average results for Questions 7 and 9. Surprisingly, those with a Very good performance for Question 6 displayed considerable variability in their conduct of Questions 7 and 9. The conclusion is that *all* participants would benefit from continuing support and explanation for this type of task: an important point in designing information literacy programmes: it is insufficient to detect those who are weak on this kind of task and seek to concentrate on them.

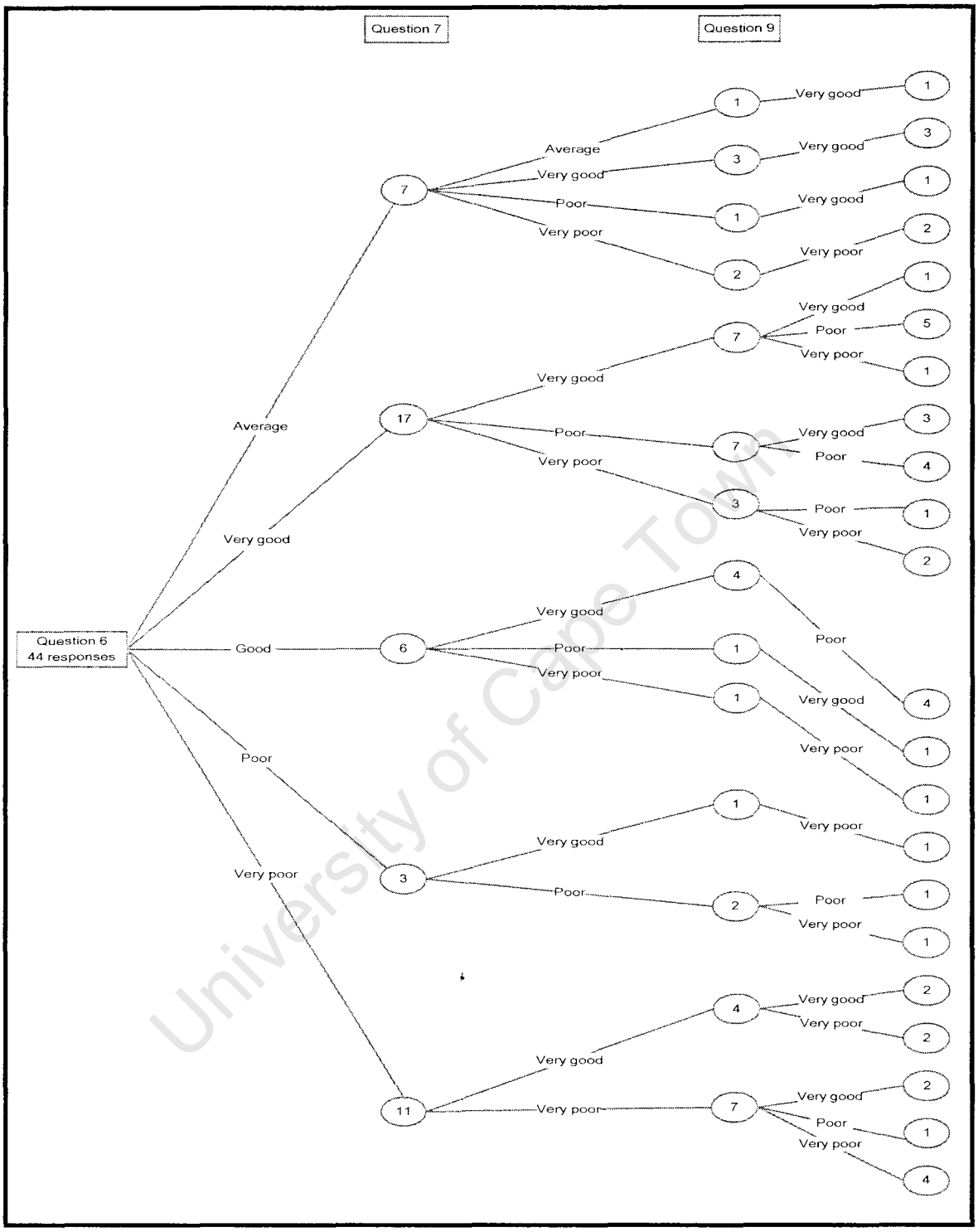


Diagram 1: Question 6, 7 & 9 Tasks associated with creating search terms UCT

In **diagrams 1** the numbers in the diagram show the distribution of responses whilst the network pathways indicate the chosen sequence of the use of tools by the respondents, it is not intended to be a definitive finding about information-seeking

behaviour but rather allows for some consideration of whether a displayed pattern is satisfactory.

In **question 8**, patterns that emerged as to the order in which respondents ranked the research tools they would employ in the process of research reflected their information seeking behaviour. The pattern shows a strong preference for textbooks as a starting point for research which may be associated with the required task at hand, for example, lecturers' recommendations of reading lists may include a higher number of textbooks than other resources. In addition, their choice of the internet (8) followed by journals (4) and loose-leaf (3) indicates their ability to further re-define the information need based on the awareness and availability of resources rather than preference. It is considered that the ideal pathway should begin with journals, as they are more likely to provide updated information, followed by textbooks, the internet and loose-leaf binders.

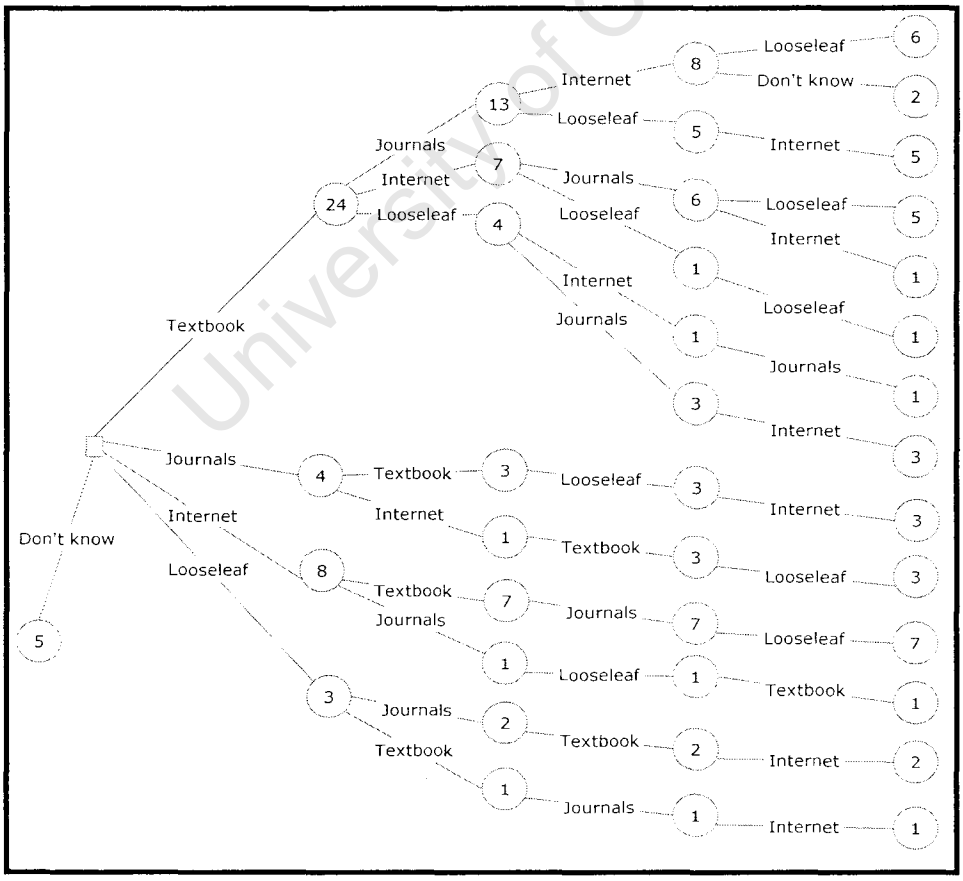


Diagram 2: Question 8 Information-seeking pattern of UCT students

B. Section 4: Nature of legal research training

In this section, respondents were required to state the nature and content of legal research training received at the law school. **Tables 6 & 7 below** shows that 90% of the respondents had received training which was of a compulsory nature; this response reflects the positive impact of UCT's integration of the credit-earning interactive web-based tutorial which has encouraged student learning experiences.

10a. Legal research training	Total responses n=44	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Yes	40	1	5	6	9	19
No response	4	0	0	0	0	4
Total responses	44	1	5	6	9	23

Table 6 question 10a: Legal research training

10b. Legal research training	Total responses n=44	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Compulsory	38	1	5	5	9	18
Optional	2	0	0	1	0	1
No response	4	0	0	0	0	4
Total	44	1	5	6	9	23

Table 7 question 10b: Legal research training

Table 8 question 11 below outlines the year level for which legal research training was received. The results show that a greater percentage of respondents (39%) received training within the first three years of study which may suggest that legal research training at the start and intermediate years are the most influential on students learning experiences and information literacy skills.

Year 1	Years 1, 2	Years 1, 2, 3	Years 1, 3	Years 1, 4	Year 2	No response	Total
6	6	17	8	2	1	4	44

Table 8 question 11: Year level for which legal research training

Table 9 question 12 below considered the content of training received by students in various aspects, results show that a greater number of the respondents have received general training in research and other core processes of legal research; however fewer respondents indicated sufficient training in " legal reasoning and writing" and "using the internet" .

Type	Yes	No	Don't know	No response	Total
Law library tour	39	1	-	4	44
Using the library catalogue	28	6	5	5	44
Researching case law	37	-	1	6	44
Researching legislation	35	1	2	6	44
How to use CD ROM databases	31	6	2	5	44
How to use the internet	14	19	3	8	44
Legal citation	32	2	3	7	44
Researching secondary sources	31	5	1	7	44
Researching laws from overseas jurisdictions	32	2	5	5	44
Legal reasoning and writing	14	16	8	6	44

Table 9 question 12: Nature and content of legal research training

Analysis of **question 13** shows that 59% of respondents were trained by librarians while 2% were taught by lecturers; 11% admitted to being self-taught while 27% did not respond. This response brings into question the level of collaboration between librarians and teaching faculty in the teaching of legal research and information literacy.

C. Section 5: Perception of legal research training

Respondents' perception on legal research training was sought in this section, its preferred position within the curriculum as well as their views on its importance in legal education.

14. Preference to legal research training -	Separate 1st year course	An elective course	Integrated within one subject in each year	Integrated with another first year subject	Separate final year subject
Yes	11	11	17	22	1
No	23	20	15	13	28
Don't know	10	13	12	9	15
No response	0	0	0	0	0
Total	44	44	44	44	44

Table 10 question 14: Preference to legal research training

Respondents were at liberty to make more than one choice from the options as they were not arranged in any particular order. As shown above in **question 14 Table 10,** opinions differ as to its preferred position within the curriculum. Respondents' preference indicates a strong support for a progressive approach to legal research training, that is, "integrated within one subject in each year of the law degree" and "integrated with another first year subject"; respondents oppose its inclusion as a final year subject.

Analysis to **Question 15** showed a 61% preference for a compulsory rather than an optional course status for legal research training. The preferred teaching methodology as reflected by responses to **questions 16-18** showed support for lectures 30%, demonstrations and hand-on practice 27% and 30% of respondents favour assessment on pass/fail bases rather than being graded.

A self-assessment of respondents' legal research and information and communication skills (ICT) in **questions 19 and 20** is shown below.

19. Self assessment	Total responses n=44	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Average	15	0	2	3	1	9
Good	19	0	2	2	7	8
Excellent	3	0	0	1	1	1
Poor	2	0	0	0	0	2
V. poor	0	0	0	0	0	0
Don't know	5	1	1	0	0	3
Total	44	1	5	6	9	23

Table 11 question 19: self-assessment of legal research ability

20. IT skills rating	Total responses n=44	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Average	12	0	3	1	3	5
Good	21	0	2	3	5	11
Excellent	7	0	0	2	1	4
Poor	1	0	0	0	0	1
Don't know	3	1	0	0	0	2
Total	44	1	5	6	9	23

Table 12 question 20: IT skills rating

Results from the two tables showed that a greater number of the respondents rated their skills as "good" or "average" while fewer rated themselves "excellent".

21. Importance of legal research	Total responses n=44	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Very important	33	1	5	5	6	16
Moderately important	7	0	0	1	3	3
Don't know	4	0	0	0	0	4
Total	44	1	5	6	9	23

Table 13 question 21: Importance of legal research

Respondents showed a strong support as to the importance of legal research to the study of law in **Table 13 question 21 above.**

There were no responses, comments/suggestions to **question 22.**

6.5 University of Jos (UJ)

The format of presentation and analysis as presented in the UCT data is also adopted here for the University of Jos, however, effort is made to identify differences within the data.

Demographic information

Gender	Count	Percentage
Female	38	41%
Male	54	59%
Total	92	100%

Age distribution	Count	Percentage
Under 20		-
20-25	59	64%
26-29	28	30%
30 and above	-	-
No response	5	6%
Total	92	100%

Grade Point Average (GPA)	Count	Percentage
3.1-4	37	40%
4.1-5	39	42%
5.1-6	3	3%
6.1-7	-	-
Don't know	13	15%
Total	92	100%

Demographic information for University of Jos reveals a higher percentage of males within the age category of "26-29" and the Grade Point Average is concentrated within the range of 4.1-5.

A. Section 2: Extent of use of information and information technology

1B. Use of Law Library	Total responses n=92	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Almost daily	42	10	25	1	0	6
Once a week	9	4	4	0	0	1
Several times a month	11	7	1	0	0	3
Several times a semester	23	11	7	2	0	3
Don't know	7	5	2	0	0	0
Total	92	37	39	3	0	13

Table 14 question 1: Use of law library

Observations to analysis in **question 1** which sought to determine the extent of use of information technology shows a similar pattern with that of UCT i.e. respondents who visited the library "almost daily" were within the GPA of 3.1-4 followed by those who visited the library several times a semester. This also suggests that regular visits to the library may not necessarily influence academic performance.

Table 16 Questions 2. Extent of use of information technology

Analysis of respondents' level of access at home and at university below reflects that a greater number of the students have access to information technology facilities at the university than at home however access to facilities at the university is not matched by efficient connectivity to the World Wide Web as indicated below.

Availability of IT facilities n=92	Home	University	Total
Computer	39	72	92
World Wide Web	38	6	92
Email	15	14	92
Word Processor	0	0	-

Table 15 question 2: Extent of use of information technology

	Daily	Weekly	Monthly	Occasionally	Never	No response	Total
Computer	10	11	0	57	5	9	92
World Wide Web	5	7	0	51	14	15	92
Email	4	11	0	56	8	13	92
Word Processor	2	7	0	29	17	37	92

Table 16 Question 3: Frequency of use of information technology

Analysis of the frequency of use of information technology by students of UJ shows that quite a number of the respondents have some form of access to information technology on a daily and weekly basis. Limited availability to facilities and low bandwidth at the University of Jos in comparison to the large number of users has often constituted a problem and accounts for the higher number of "occasional" use of information technology; however, it is possible that poor searching skills may also be a reason.

In **question 4,** respondents' success rate is displayed in the task analysis below.

4. Task analysis	Always successful	Usually Successful	Seldom Successful	Not used at all	No response	Total
Using word processor	16	19	16	20	21	92
Downloading information from WWW	23	21	20	14	14	92
Using email	14	8	8	49	13	92
Using Nigerian sources	13	14	26	27	12	92
Using case citators	23	29	14	10	16	92
Using library catalogue	38	32	8	6	8	92
Evaluating legal information	14	24	15	16	23	92
Listing keywords for research	14	14	16	15	33	92
Finding 2nd reading speeches in Hansard	9	9	8	24	42	92
Finding treaties relating to Nigeria	7	19	21	19	26	92
Using CD ROM databases of cases	11	6	13	25	37	92

Table 17 question 4: Task success in use of information technology

Analysis of responses to task success rates shows a similar pattern with UCT, responses reflect lower success rates in the more technical aspects of legal research such as evaluating legal information (14), listing key words (14), finding treaties

relating to Nigeria (7) and using CD ROM databases (11). This analysis further underscores the importance of information literacy to the process of legal research.

6.5.1 Sections 3-5

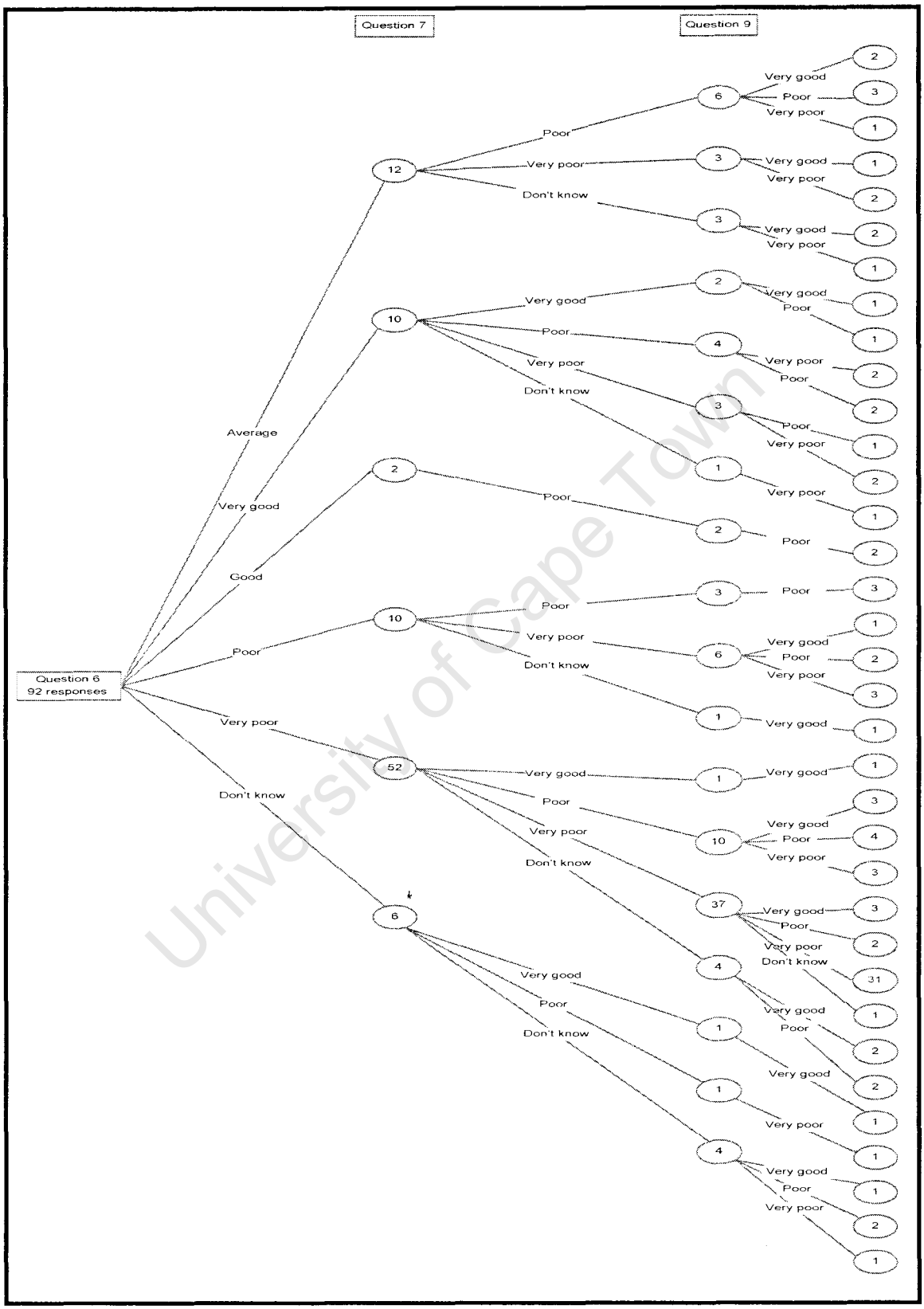
A. Section 3: Research problem

Responses to **question 5 table 18** indicated that majority of students had insufficient skills in their ability to create search terms as shown below.

5b. Robbery and extortion	Total responses n=92	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Average	9	4	4	0	0	1
Good	11	5	5	0	0	1
V. good	21	6	12	0	0	3
Poor	12	5	6	0	0	1
V. poor	39	17	12	3	0	7
Total	92	37	39	3	0	13

Table 18 question 5: Research problem

In **Question 6**, 24 of the respondents achieved results in the average, very good and good grades; 62 of the respondents in the poor or very poor grades and 6 unable to respond to the Question. It is noticeable that those respondents with poor and very poor grades tended to remain in these categories for the performance of **Questions 7 and 9.** The conclusion is that the respondents from the University of Jos showed a marked differentiation of result, suggesting that it would be feasible to design a two-stage information literacy programme, with more intensive support for those who display weaknesses in these and similar tasks encountered in the first stage.


Question 7
Question 9
Question 6
92 responses
Average
Very good
Good
Poor
Very poor
Don't know
12
10
2
10
52
6
Poor
Very poor
Don't know
Very good
Poor
Very poor
Don't know
Poor
Poor
Very poor
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Very good
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Very good
Poor
Very poor
Don't know
6
3
3
2
4
3
1
2
3
1
10
6
1
1
37
4
1
1
4
Very good
Poor
Very poor
Don't know
Very good
Poor
Very poor
Don't know
Very good
Poor
Very poor
Don't know

The principal result of the analysis of respondents' performance on **Questions 6, 7 and 9** for both cases is that the institutional groups displayed potentially significant differences. There is a larger group of respondents at the University of Jos displaying systematic weaknesses. The most probable explanation for this is that respondents from the University of Jos tended to have lower levels of access to IT and, consequently, lower levels of experience of the formal creation of search statements and similar tasks. At both institutions, however, there were few respondents who maintained a consistently above average result (that is, in the Good or Very good categories), supporting the contention that information literacy programmes are of potential value to all respondents.

In question 8, outcomes of the information seeking process of UJ law students indicated some similarities with UCT i.e. starting with textbooks (28) and a higher preference for the internet (12) compared to journals (3) and loose-leaf. From the diagram, the pattern of information gathering from the initial choice of textbooks seems to cluster around the internet to loose-leaf and then back to the internet to journals reaching up to a terminal point i.e."Don't know".

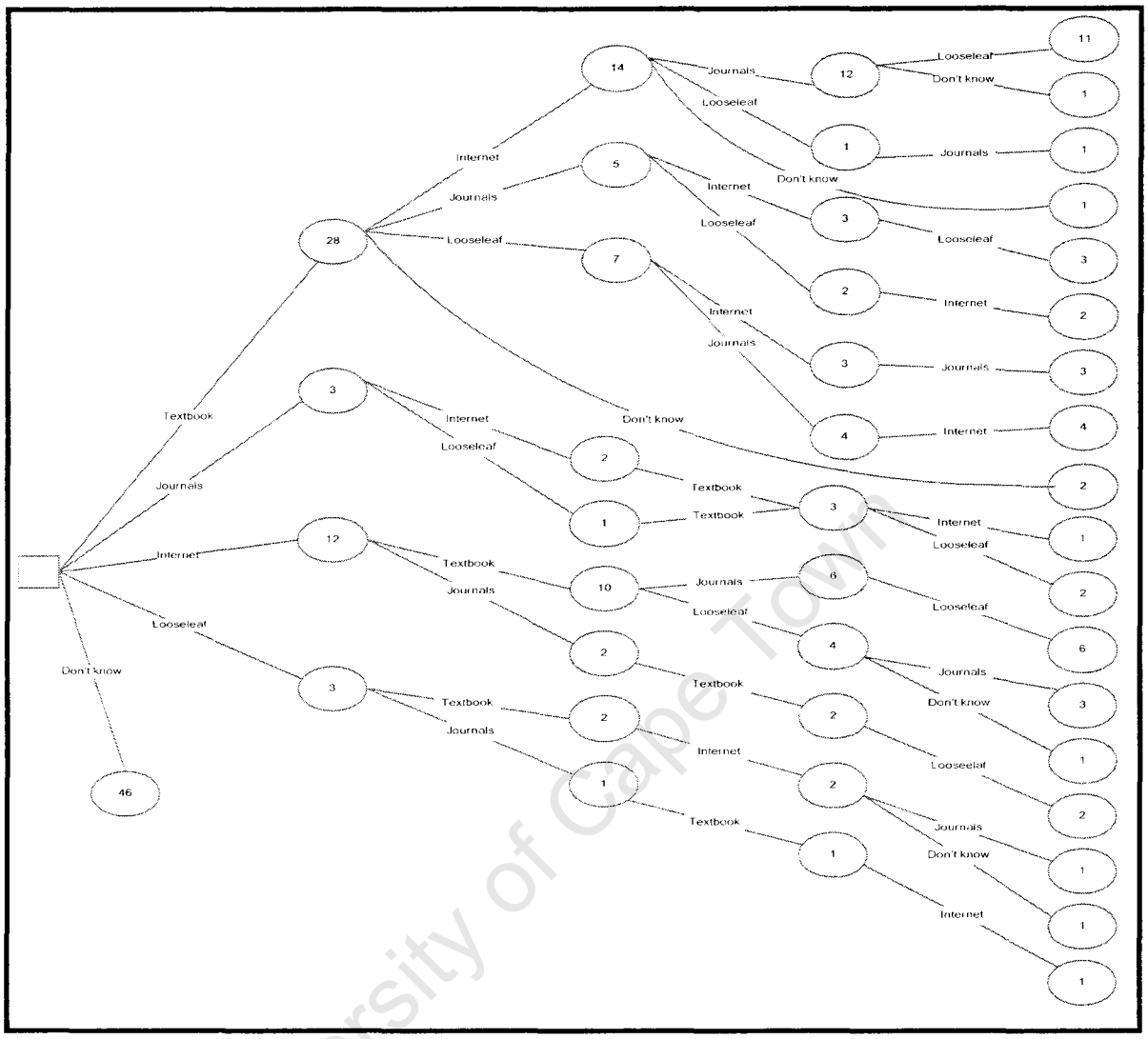

Diagram 4: Question 8 Information-seeking pattern of UJ students

In both cases, it would have been expected that the internet would be the first points of research rather than textbooks; however, variations in the information seeking process indicate that students are able to construct a pattern for information search that is consistent to their academic needs and transferable to the workplace. Specifically noted also in both cases is students' interest in loose-leaf materials which provide more current information than textbooks on any particular topic in the field of law which may suggest that they have better success rate of information use in the print environment. Both patterns in the two diagrams as shown have implications on the design and composition of information literacy programmes which is crucial to students' overall academic performance.

B. Section 4: Nature of legal research training

The content of legal research training undertaken by respondents is displayed in **question 10a/b, tables 19/20** below.

10a. Legal research training	Total responses n=92	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Yes	38	12	20	2	0	4
No	28	13	12	0	0	3
No response	11	5	1	1	0	3
Don't know	16	7	6	0	0	3
Total	92	37	39	3	0	13

Table 19 question 10a: Legal research training

10b. Legal research training	Total responses n=92	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Compulsory	24	8	14	0	0	2
Optional	13	4	6	1	0	2
No response	46	20	17	2	0	7
Don't know	9	5	2	0	0	2
Total	92	37	39	3	0	13

Table 20 question 10b: Legal research training

Even though the "no response" rate is high, observations from responses from the analysis showed an indication that majority of the respondents had received legal research training which was of a compulsory nature.

Year 1	Years 1, 2	Years 2, 3	Years 1, 4	Year 2	No training at all	No response	Total
8	20	6	5	0	10	43	92

Table 21 question 11: Year level for which legal research training

Table 21 question 11 outlines the year level for which legal research training was received; the results show that respondents indicated that they had received training within the first and second years of study while further training seem to diminish in the later years of study; some indicated they had received "no training at all".

Type	Yes	No	No training at all	Don't know	No response	Total
Law library tour	21	6	10	11	44	92
Using the library catalogue	25	4	6	3	54	92
Researching case law	23	5	58	0	6	92
Researching legislation	14	12	7	0	59	92
How to use CD ROM databases	3	16	9	11	53	92
How to use the internet	10	13	9	14	46	92
Legal citation	25	2	7	9	49	92
Researching secondary sources	20	6	6	8	52	92
Researching laws from overseas jurisdictions	7	15	8	0	62	92
Legal reasoning and writing	20	6	5	8	53	92

Table 22 question 12: Nature and content of legal research training

Table 22 Question 12 displays an analysis of the nature and content of legal research training received which shows that the highest in the "yes" category are those who have received training in "using the library catalogue" and "legal citation"; results also show that fewer respondents had received training in the use of CD ROM

databases. It is also noted here indications by respondents that they had received "no training at all" in researching case law and other relevant areas of legal research.
In **question 13** a contrary result to the analysis in UCT was noted which shows that 23% were taught by lecturers and 10% by librarians, which may also indicate a preference for lecturers as instructors than librarians. 7% of respondents indicated that they were taught by their peers and 2% were self-taught.

C. Section 5: Perception of legal research training

Question 14 Table 24 students' perception of their preferred position for the integration of legal research within the curriculum reflects the importance ascribed to legal research by respondents.

14. Preference to legal research training -	Separate 1st year course	An elective course	Integrated within one subject in each year	Integrated with another first year subject	Separate final year subject
Yes	30	10	21	8	9
No	19	39	27	40	39
Don't know	20	24	12	22	26
No response	23	19	32	22	18
Total	92	92	92	92	92

Table 23 question 14: Preference to legal research training

Responses to the variables show a strong support for its inclusion as "a separate first year course" and "integrated within one subject in each year of the law degree" which suggests a recognition of its importance at point of entry and in the middle years of study. There is a negative response to its inclusion as a final year course perhaps due to considerations of accumulated course work at the final year level.

Question 15 showed a 55% preference for a compulsory and 10% optional course status for legal research training. Responses to the method of assessment for legal

training in **questions 16-18** included an indication of preferences for format and feedback. Respondents indicated that 27% had a preference for lectures and 12% for demonstration and hands-on practice; 60% preferred that grading should be done on pass/fail bases and 2% preferred it not graded while 38% did not respond.

Questions 19 and 20 requested a self assessment of information technology skills; results show that a higher number of the respondents rated their skills between the ranges of "good" or "average" and fewer rated themselves "excellent".

19. Self rating	Total responses n=92	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Average	25	9	14	1	0	1
Good	22	6	12	1	0	3
Excellent	6	1	5	0	0	0
Poor	4	2	2	0	0	0
V. poor	0	0	0	0	0	0
Don't know	7	3	0	1	0	3
No response	28	16	6	0	0	6
Total	92	37	39	3	0	13

Table 24 question 19: self-assessment of legal research ability

20. IT skills rating	Total responses n=92	Grade Point Average (GPA)				
		3.1-4	4 .1-5	5.1-6	6.1-7	Don't know GPA
Average	26	12	11	2	0	1
Good	15	3	10	0	0	2
Excellent	7	1	5	0	0	1
poor	9	2	7	0	0	0
Don't know	14	8	3	0	0	3
No response	21	11	3	1	0	6
Total	92	37	39	3	0	13

Table 25 question 20: IT skills rating

21. Importance of legal research	Total responses n=92	Grade Point Average (GPA)				
		3.1-4	4.1-5	5.1-6	6.1-7	Don't know GPA
Very Important	52	17	25	3	0	7
Moderately important	4	1	2	0	0	1
Don't know	0	0	0	0	0	0
No response	36	19	12	0	0	5
Total	92	37	39	3	0	13

Table 26 question 21: Importance of legal research

Analysis of **question 21 Table 26** above shows a 56% indication in support of the importance of legal research to the study of law. There were no responses, comments or suggestions to **question 22**.

6.5.2 Comparative analysis

In comparing the two data sets, differences were noted particularly with the demographic compositions as analysed in the tables below.

Age group	Age group compared with gender					
	UCT			UJ		
	Male	Female	Total	Male	Female	Total
Under 20	0	1	1	0	0	0
20-25	13	27	40	27	32	59
26-29	1	1	2	24	4	28
30 and above	1	0	1	3	2	5
No response	0	0	0	0	0	0
Total	15	29	44	54	38	92

Table 27: Age group and gender

Compared to UCT, respondents in the UJ data consisted of a higher number of those within the older age category, i.e. 26-29 and 30 and above, which may suggest a possible composition of a working class age group.

GPA compared with Age Group UCT	Age Group				Total
Grade Point Average (GPA)	Under 20	20-25	26-29	30 and above	
3.1-4	0	1	0	0	1
4.1-5	0	5	0	0	5
5.1-6	0	5	1	0	6
6.1-7	1	8	0	0	9
Don't know	0	21	1	1	23
Total	1	40	2	1	44

Table 28: GPA and age group (UCT)

GPA compared with Age Group UJ	Age Group				Total
Grade Point Average (GPA)	Under 20	20-25	26-29	30 and above	
3.1-4	0	26	10	1	37
4.1-5	0	25	11	2	38
5.1-6	0	0	0	0	0
6.1-7	0	0	0	0	0
Don't know	0	6	6	5	17
Total	0	57	27	8	92

Table 29: GPA and age group (UJ)

Comparisons between the GPA and age group in the UCT data reveal that the distribution of respondents' GPAs is concentrated around the "20-25" age category. In UJ however, there seems to be a relatively even distribution of the GPA among the various age groups.

Further in the analysis, the category which appears central for a comparative analysis of the data with respect to information literacy is **section 4 question 11**. A look at the analysis at **question 11** which sought to determine the year levels in which legal research training was received shows from the table below for UCT students, that the Grade Point Average (GPA) with timing and frequency of legal research training records the highest percentage of 39% in the range of 6.1-7 for those who had received training in the first, second and third year of study. The other categories, year 1 and 2 had relatively lower percentages. On the basis of this analysis, it may be safe to conclude in this case that the start and midpoint of university studies are the best times to expose students to information literacy and legal research training.

	Institutions							
Year level	**University of Cape Town (UCT)**				**University of Jos (UJ)**			
	Yes	**No**	**GPA**	**%**	**Yes**	**No**	**GPA**	**%**
Year 1	6	-	3.1-4	14%	16	-	2.5-3.49	17%
Year 1, 2	6	-	4.1-5	14%	20	-	3.49-4.5	21%
Year 1, 2, 3	17	-	6.1-7	39%	-	-	-	-
Year 3	8	-	-	18%	8	-	4.5-5.0	9%
Year 1, 4	2	-	-	4%	19	-	-	20%
No training at all	-	-	-	-	11	-	-	13%
No response	5	-	-	11%	18	-	-	20%
Total	44			100%	92			100 %

Table 30 question 11: Year levels for legal research training

In the case of UJ, it is noted from the data that there were a higher number of students in the "no response" category. This could be because the GPA categories in the questionnaire did not exactly correspond to the grading system in the University of Jos; GPAs range from 0.1-5.0 but the questionnaire categories ranged from 3.1-4 and 6.1-7, as such, many students may not have found a category into which they fit. However, for the analysis of this question, a corresponding GPA with that of UCT was obtained for comparative purposes. In addition, it seems puzzling that there were students who claimed to have had legal research training in the first and second years of study but it is known that law students at the University of Jos are only taught legal research methods in the third year. This suggests that the students either did not understand the question or had had some form of informal/extra-curricular legal research training. The analysis shows that 9% of the respondents in UJ who were supposed to have had legal research training only in third year were in the highest GPA category (4.0-5.0) compared to 39% in UCT in the highest category (6.1-7) who

had received at least 2 or 3 years of legal research training. Although the percentage in UCT is higher, it is not sufficient in this case to conclude that legal research training frequency has a significant effect on academic performance; more data may be needed to make any conclusive statement about this relationship. It is also interesting to note that 13% of the respondents in UJ indicated that they had received "no training at all" in legal research as at the third year of undergraduate study.

6.6 Observations and conclusions

In this chapter, which presents an analysis of the data, the inductive approach influenced the technique used; according to Payne and Payne (2005: 99), adopting an inductive framework in grounded theory research enables the researcher to explore the data while allowing them to suggest meanings and explanations that may eventually develop into a theoretical model. The researchers' goal is to study the differences and attempt to form salient relationships and patterns from the data. Observations from the analysis shows that less than the expected response rate was obtained in both cases particularly at the University of Cape Town and specifically in the case of University of Jos, it is noted that even though a larger response rate was obtained, the analysis of the questions recorded a low output of respondents' views. Secondly, the failure of the researcher to clarify that the GPA for the University of Jos ranges between 4.5-5.0 and not 6.1-7 during the administration of the data may have accounted for some errors in the responses in the demographic information in the data. Similarly, researcher error was noted in the analysis of question 11 which requested respondents to indicate the year level for which legal research was undertaken; the inclusion of year levels 4 and 5 as options led to wrong selections considering that the focus of the study was on third or intermediate year undergraduate law students only. The analysis of the data focused on all aspects of the data, however, it is anticipated that in the subsequent chapter the researcher shall attempt to interpret the data that are statistically significant in relation to the research questions.

CHAPTER SEVEN
DISCUSSION OF FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

7.1 Introduction

The strength of qualitative data is its proximity to the specific situation, its location within a particular context provides a strong potential for revealing the complexities in understanding the issues involved in the study (Miles & Huberman, 1994:10). Grounded theory is responsive to the situation in which it is done; its processes involve a continuing search for evidence in which constant comparison helps theory to emerge from the data. In qualitative research, the ability to interpret the data and draw relevant conclusions that will satisfactorily answer the research questions is one of the most significant steps in the research process; the challenge of data interpretation shows the level of interaction between the data and their potential for forming a unified whole in explaining the issues under consideration (Feldman, 2001: 2; Sarantakos, 1994: 308). In further analysing the findings from this study, it is anticipated that a relationship would be established from the data with respect to the research questions and other issues raised in the course of the research as well as proffer recommendations that have emerged from the study.

7.2 Discussion of findings

The objectives which form the basis for this study include, among other things, the need to examine the various sources of legal information resources and their peculiar nature in relation to student learning as well as investigate the importance of information literacy in legal research with a view to fill gaps in legal information literacy skills. The theoretical framework that anchors the study is the Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education (2000) which has served as a guiding principle for various educational institutions in different countries for developing similar standards or models and provides an appropriate context for measuring students' learning outcomes. Discussed below are the outcomes from the study which cover various

aspects of the issues that form the crux of the research questions; also analysed and examined are the implications of the study which are of particular relevance to the institutions under case study and legal education in general.

Research question 1

Does the structure of legal information provide special problems for the retrieval of information?

An analysis of the first research question which sought to determine the nature of problems encountered in the use and retrieval of legal information, revealed that the bibliographic organisation of legal information has often defined the nature and relationship of its various sources in the application of law: consequently, difficulties experienced in their use has directed concerns to issues of research and skills acquisition through information literacy. Research in information literacy instruction specifically at the undergraduate level has shown that there is a strong correlation between the nature of information literacy and the disciplinary context within which it is implemented, that is, it must be structured in a way that relates the acquired skill to a particular subject domain (Grafstein, 2002: 197). In legal education, it is important that the unique information structure of the various formats of legal resources is taken into consideration in developing an appropriate pedagogical model for integrating legal research skills in the curricula (Cuffe, 2002: Legal information literacy model and assessment).

Research question 2

How can students' level of awareness in accessing and retrieving information resources be evaluated?

The utilization of information resources is assumed to be associated with the level of awareness of a resource; this research question aimed to test students' level of awareness of the nature and forms of legal information resources. Question 12 in the data considered the content of training received by the students in various aspects. An evaluation of the contents of these examples of training suggests that the nature of legal research training received has a commensurate impact on student's level of awareness and information literacy skills; the degree of the level of their awareness

determines by implication their ability to access, retrieve and interpret various forms of information thereby helping them to develop critical thinking abilities. The mode of teaching (lectures, demonstration or hands-on) and assessment strategies are significant for developing critical thinking abilities, related studies explored within the literature have buttressed this view. From the analysis, it is noted that the nature of information literacy courses offered whether as compulsory with assessment or voluntary with assessment has an impact on students' learning outcomes. Observations from UCT respondents revealed a reasonable level of competence as compared to the University of Jos perhaps due to the integration of its information literacy programmes on a compulsory basis. In the case of University of Jos, it is noted that even though legal research training and information literacy were offered, they comprised a minimal (or voluntary/optional) part of the degree programme which creates a tendency for students to be severely disadvantaged in their skills at the workplace level.

Research question 3

How successful are students in using information for problem solving?

Focus to this question is re-directed at the core issue of assessment of the research skill of respondents with a view to investigating students' attitudes and approach to problem solving with regards to the main components of information literacy. Findings to question 5 in section 3 which sought to assess the difficulty experienced by students in the process of research provided useful insights to the knowledge and experiences of students in their approach to problem-solving. Responses from University of Jos showed a correct response of 23% which suggests that students had insufficient experience in creating appropriate search terms which also by implication is a reflection of the level of their information literacy skills. University of Cape Town students performed better with a correct response of 52%. The impact of the information age requires that students are taught the intricacies of keyword searching this is because even when search engines provide "search builders", it is still necessary for users to be able to understand the logic and construction of search terms.

Research question 4

What is the perception of students of the importance of information literacy?

The objective of this research question was to enable the researcher assess the understanding of respondents of the importance of assuming responsibility for their own learning and information literacy; responses to this question suggests the need to foster collaborative efforts between librarians and teaching faculty. An indication of this (75% - UCT) and (57% - UJ), showed a strong support for the importance of information literacy attached by students to legal research. Similarly, analysis of question 20 showed that students' perception of their skills suggests a contrary reflection of their actual competence; studies cited in the review of related literature provided evidences which suggested that students tend to overestimate their abilities (Cochrane 2006: 106). Responses to this question further highlights the importance of collaborative efforts between librarians and teaching faculty in creating a relevant structure that would improve access to legal information and establish a context for promoting information literacy and life-long learning.

7.3 Implications of findings and recommendations

The theoretical and practical implications of the findings to the study as discussed are central to the core issues of information literacy within the context of higher education and specifically as it relates to its integration in the curriculum of legal education.

Firstly are what the findings have suggested with respect to information literacy and the need for educational reform in student learning, specifically, the responsibility of the institutions in creating a relevant structure for developing critical thinking and lifelong learning abilities. The relevance of information literacy is best exemplified within a subject specific context, hence the need for higher education institutions to provide a framework by which needed skills can be integrated into the curriculum. The design of the curriculum is a determining factor in implementing information literacy programmes and should be made in accordance with the recommendations of the adopted standard in order to achieve the set educational objectives. Conceptions of information literacy within a disciplinary context helps promote an attitude of critical

inquiry to the learning process and in legal education, such process-oriented pedagogies as Problem-based learning, Resource-based learning and Web-based learning approaches can be used as vehicles for information literacy instruction. These methods, as cited in the literature, have been used in different contexts and are found to be challenging to students in helping them to think critically and analytically within the specified context (Cuffe, 2002: Legal information literacy principles). By teaching the conceptual models for handling information through an integrated and incremental approach, students are provided with a broad context for understanding the different forms, sources and structures of information which also ensures the transferability of acquired skills to the workplace environment (Whitehead & Quinlan, 2002: 13; Webber & Johnston, 2003b: Subject curricula).

On the issue of curriculum integration, Oker-Blom, (1998: The role of the librarian in integrating information skills in PBL curriculum) affirms the need for librarians to identify the information skills of students in advance so that the curriculum can be aligned with the learning objectives. Similarly, Andretta, (2006: 257) comments that the importance of information literacy as a fundamental requirement of a learning society necessitates that higher education institutions implement it as a top-down initiative and as a bottom-up approach in order to fully integrate these strategies in curricular activities that facilitate a dynamic investigation of disciplines. For the legal education curricular, Cuffe (2002: Legal information literacy curriculum model and assessment) in her analysis suggested an integrated and incremental approach to legal information processes at the pivotal, midpoint and penultimate years of the law degree in order to consolidate students' information literacy skills. The researcher subscribes to this approach as a consistent and progressive method of integrating information literacy into the mainstream of the curriculum of legal education based on the outcomes of the study, specifically findings from the UCT data which indicated that a progressive approach to information skills training has a commensurate impact on students' academic performance.

Outcome assessment/evaluation: Implications from the study lends support to the notion that issues of outcome assessment and evaluation of information literacy initiatives through established standards of measurements are essential for further

development. Assessment of information literacy skills is multi-dimensional, dealing with cognitive, affective and learning skills. It may be formative, summative, qualitative, quantitative or other forms, the importance being essentially to determine the strategic value of information use and to foster ongoing improvement for the user or provider of instruction, evaluation on the other hand requires setting measurable targets which indicate the level of success of planned activities (Kiondo, Katunzi & Mollel, 2005: 196). In recognising the importance of information literacy in legal education in the University of Jos Nigeria, the researcher observes that there is a need to improve standards of assessment for information literacy initiatives; this is because the current standards are insufficient to deal with problems of skill deficiency among students. It is also noted that current standards adopted by other countries may not be appropriate within Nigeria and South Africa unless they form part of a programme of legal information literacy. The Association of College and Research Libraries (ACRL) Information Literacy Competency Standards for Higher Education, 2000, could be adopted as a model for curriculum design and assessment of student learning outcomes in legal education as is the case with the University of Cape Town, South Africa. The uniqueness of this document is that it provides a systematic method of measuring student-learning outcomes which could be accomplished through course-integrated instruction and provides a context by which models for information literacy instruction and curriculum design can be implemented. Based upon her own experience, the researcher believes this approach has much to offer but further study is required to substantiate this.

Issues of outcome assessment and evaluation have constituted a problem in most higher education institutions particularly in developing countries where information literacy standards are yet to be set; this is noted from the analysis of information literacy practices reviewed in the literature. Rosenberg (2005: xii) comments that in some African countries, even though there seems to be a general agreement that the integration of information literacy courses into the curriculum in ways that are assessable and credit-bearing is necessary for success, feedback from students and implementation efforts do not reflect the real picture due to lack of standards. This situation prompts the need for the development of a continental or regional approach (particularly in West Africa) to information literacy standards as is the case with the United States, the United Kingdom and Australia as a way of addressing problems of

information literacy education in Africa. Within the disciplinary context also, a review of the related literature has shown that unlike other disciplines, legal education is yet to set standards that articulate an integrated approach to information literacy programme (Peoples, 2000:293).

Thirdly also are the policy implications that have emerged from the study, which include, among other things,

- The need to address information literacy as an educational objective that could be systematically covered in the academic curricula.

- The need for a formidable financial base for the implementation of information literacy programmes especially in the area of staff recruitment and infrastructural development.

- The role of the information professional in encouraging and stimulating the development and implementation of various information literacy programmes through advocacy.

All of these point to the need to develop an institution-wide policy which recognises the value of information literacy as a graduate requirement in legal education. In the case of the University of Jos specifically, it is noted that information literacy initiatives have remained on the margins of the educational process due to limited support by government and stakeholders. In South Africa for example, Underwood (2002: 10) noted that the promulgation of the National Plan for Higher Education by the Ministry of Education in 2001, demonstrated a general awareness by the government of the strategic role of information literacy in ensuring outcome-based education. This further buttresses the view that the obligation and responsibilities that accompany information literacy implementation requires all stakeholders in higher education and at the governmental level in helping to establish a system that effectively integrates the concepts of information literacy (Lungu 2005:214). Bruce (2002: Establishing policy guidelines) also comments that international, national and institutional policies and guidelines are vital in supporting and directing the adoption of information literacy education. Policies concerning information technology, teacher education, the role of the information specialist in the learning environment and the wider community are of considerable significance in the implementation of

information literacy programmes; at institutional levels, policies are needed to support information literacy education in order to facilitate a flow in staff development and curriculum initiatives.

Faculty/librarian collaboration: Outcomes from the study also emphasize the importance for collaborative action in the execution of information literacy programmes; this is seen in the institutions under study where findings have indicated limited collaboration between librarians and academic faculty. Lack of collaboration between librarians and faculty has been a main obstacle to information literacy implementation; according to Rockman, (2002:187) collaboration between faculty and librarians in the learning process helps students to acquire the necessary information literacy skills that have built-in opportunities for success. The current structure of legal information resources and the challenges of Computer Assisted Legal Research (CALR) further highlight the value of the information specialist in helping undergraduate law students develop competences that are relevant to the subject domain and transferable to the workplace environment. In addition, the imperatives of the digital information age have implications for the perceived roles and responsibilities of academic librarians in helping academic faculty to incorporate elements of information literacy in instructional programmes in order to enhance student learning experiences. The responsibility for information literacy in legal education must therefore be shared within strategic partnerships at various levels i.e. - curriculum design, policy development, staff development and classroom teaching.

Also from the findings is the issue of assessing students' level of awareness to legal information resources. Research has shown that most students feel comfortable with their information searching skills (Ola & Hiort af Ornas, [2006?]: Awareness of need); this perhaps accounts for the poor attitude and low attendance to information literacy classes by students (Msuya 2005: 15). Hepworth, (1999:30) argues that there is a need for students to appreciate that learning skills strategies and attitudes helps prepare them for the professional work environment. There is also the need for institutions to recognise that most students come from various educational backgrounds, some of which may not have encouraged information literacy hence the

need to promote the importance of information literacy through advocacy in order to create a positive environment for general awareness of resources (Viljoen, 2005: 120).

7.4 Suggestions for further research

The aims and objectives of this study from the onset was among other things to examine the various sources of legal information and their peculiar nature in relation to students understanding of their use and to examine the importance of integrating information literacy in legal education and legal research with a view to fill gaps in students' information literacy skills. From the foregoing it is seen that the dimensions of studies in information literacy have provided insights into the nature of research being undertaken in the educational sector particularly those that focus on the skills and attributes of students. Within the disciplinary contexts, considerable attention has been given to investigations into the experiences and perceptions of users with emphasis on programme and curriculum development, all of which are helping to chart the future directions of research on the impact of information literacy education.

Currently in the information literacy research field, the identification and exploration of different paradigms of information literacy research, whether Cognitive, Constructivist or Behaviourist theories, have generated interest among educational policy makers and practitioners as to what learning entails and how such approaches can be integrated into educational programmes. In legal information literacy, attempts have been made to develop learning strategies based on pedagogical models that convey principles about information search techniques in legal research; an example is the Cornell University Information Competency Initiative in 2008 designed by the law faculty as a way of integrating research skills into the creation of assignments for undergraduate courses. This study provides a foundation to such efforts in African universities. This point brings to the fore the need to device a means for updating the skills of practitioners for the implementation of information literacy programmes.

Beyond the educational sector, concerns are also shifting to the workplace setting; mainly research into issues of transferability of information skills which, it is hoped, will provide further suggestions for improvements in information literacy instruction. This move is helping to create a link between higher education institutions and the

workplace setting thereby re-enforcing the importance of the information environment in supporting information literacy within learning organisations (Bruce, 2000: Sectoral locations of the research); (Edwards, Bruce & McAllister, 2004: 4). In legal information literacy, limited research has been undertaken to examine the transition from formal education to the workplace particularly in Africa; even though it is beyond the scope of this study, an investigation into this area is necessary in order to determine what is the extent to which information literacy is understood and applied by legal practitioners in the workplace. Findings from this study have revealed that a major gap exists in the research skills of undergraduate law students of the University of Jos in comparison to their counterparts at the University of Cape Town in terms of information skills acquisition, resource awareness and self-directed learning which tends to confirm the need to address deficiencies and design an improved curriculum in order to ensure the transferability of skills to the workplace. A study of this nature will provide insights into the trends and demands of information literacy in the legal workplace in Africa with further implications for graduate requirements at the educational level.

7.5 Conclusion

Information literacy as reflected in the needs of legal researchers has widened the interpretation of how legal research should be conducted. In undertaking this study, it was necessary that an extensive literature review on the impact of information literacy initiatives in various countries and the challenges faced in implementation be explored in order to contextualize and compare the current challenges of integration in African countries where the literature of information literacy is relatively scanty especially in West Africa. The research findings suggest several considerations in information literacy education that could inform policy and practice within the context of higher education in relation to the efforts of integration in legal education and specifically highlight the need to establish benchmarks from evidences of best practices that can provide guidance on the place of legal information literacy in the curriculum of legal education in Nigeria. Even though the findings of the study are limited to a set of comparative case studies, it is hoped that they would provide a current understanding of the phenomenon in similar contexts and contribute to an understanding of the relationship between information literacy and learning in the legal field.

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APPENDICES

Appendix One: Research Questionnaire

Introduction

I am Masters student of the University of Cape Town, Department of Library and Information Science. I am undertaking a research on "Information literacy with regards to the use of legal resources: case study of third year undergraduate law students of the University of Cape Town, South Africa and University of Jos, Nigeria", I would very much appreciate your assistance in filling out this questionnaire. Please be assured that participation is voluntary, your anonymity is also guaranteed and responses will be kept strictly confidential.

General instructions

The questionnaire is divided into five (5) sections each followed by instructions on how to answer them, please read them carefully. After completing the questionnaire, kindly hand it in at the front desk of the Law Library on or before the 20th of April 2007.

Thank you,

Victoria Lawal
lwlvic001@.uct.ac.za

Section 1: Demographic details

1a. Please **tick** where applicable.

a. Gender.....M [ ] F [ ]

b. Age group.....18-19 [ ] 20-25 [ ] 26-29 [ ] 30 and above [ ]

c. For this year of study, are registered as Full time [ ] Part time [ ]

d. What is your Grade Point Average (GPA)? 3.1-4 [ ] 4.1-5 [ ] 5.1-6 [ ] 6.1-7 [ ]

Section 2: Extent of use of Information and Communication Technology (ICT)

Please **tick** where applicable.

1b. How often do you use the law library?

Almost daily [ ] Once a week [ ] Several times a month [ ] Several times a semester [ ] Never [ ] Don't know [ ] No response [ ].

2. What is the nature of your access to?

	Use at home		**Use at University**		**Use at work**		**No access**
	Accessible	Not accessible	Accessible	Not accessible	Accessible	Not accessible	
Computer							
World Wide Web							
E-mail							
Word processor							

If you have access to other facilities, please briefly explain what they are.....

3. How frequently do you use?

	Daily	**Weekly**	**Occasionally**	**Never**	**Don't know**	**No response**
Computer						
World wide Web						
E-mail						
Word processor						
Others specify						

4. How would you rate your level of success in the use if the following?

Task success	Always successful	Usually successful	Seldom successful	Not used at all	Don't know	No response
a. Using a word processor to complete an assignment						
b. Downloading a file from the World Wide Web						
c. Using e-mail to communicate with lecturers and students						
d. Using South African sources to find unreported cases						
e. Using case citators to find citations						
f. Using the library catalogue to find a book or journal						
g. Evaluating whether a legal information is current						
h. Listing keywords about a research problem						
i. Finding second reading speeches in Hansard						
j. Finding treaties relating to South Africa						
k. Searching full-text CD-ROM databases of cases.						
l. Others specify.						

Section 3: Analysis of research problem:

Please **write in** the keywords in the spaces provided.

5. Indicate the keywords you would use in researching the answer to the following questions.

a. What conditions were amnesty seekers required to meet to be granted amnesty under the promotion of the National Unity and Reconciliation Act 1995 of South Africa?

b. How does environmental rights in the South African Constitution incorporate the principle of sustainable development?

c. Discuss the distinction between general and special damages for breach of contract under South African law?

d. Freedom of choice and gay marriage under the South African Constitution.

6. Please tick the following steps (1-4) in the order you need to perform in order to find this Act:

Year	Number	Title of Act	Sub-group volume in books
1983	74	Child Care Act	Children (5)

	Step 1	Step 2	Step 3	Step 4
a. Find volume 5 of the statutes on the shelf				
b. Find the 1983 set of the statutes				
c. Turn to the part of volume 5 called Children to find out what page the Child Care Act is found				
d. Turn to the first page of volume 5 to find out what page the Child Care Act is found				
Don't know				
No response				

7. Indicate the best process for locating up-to-date South African legislation

a. Annotations [ ]

b. Current awareness services [ ]

c. Full text hardcopy reprints [ ]

d. Don't know [ ]

8. Please rank the following research tools in the order A, B, C or D in which they would be used to research the answer to a problem.

Tools				
1. Textbooks				
2. Loose-leaf				
3. Internet				
4. Journal articles				
5. Don't know				
6. No response				

9. Citation indexes are used for –

a. Locating publications [ ]

b. Consulting terminologies

c. Tracing the judicial history of a case

d. Don't know

Section 4: Nature of legal research training received:

10a. Have you received any form of legal research training at the law school?

Yes [ ] No [ ]

10b. If yes, was the training

a. Compulsory [ ]

b. Optional [ ]

c. Don' know [ ]

11. At what year level did you receive such training?

	Year 1	Year 2	Year 3	Year 4	Year 5	Not at all	Don't know
Training							

12. What was the nature of the research training?

Content	Yes	No	No training at all	Don't know
a. Law library tour				
b. Using the library catalogue				
c. Researching case law				
d. Researching legislation				
e. How to use CD-ROM (Lexis Nexis, Westlaw & Hein online)				
f. How to use the internet				
g. Legal citation				
h. Researching secondary sources				
i. Researching law from overseas jurisdiction				
j. Legal reasoning and writing				

13. Who were your trainers?

a. Librarians [ ]

b. Lecturers [ ]

c. Peers [ ]

d. Self [ ]

e. Don't know [ ]

Section 5: Perception of legal research training:

Please **tick** where applicable.

14. What is your preferred position for legal research and ICT training within the law curriculum?

Position	Yes	No	Don't Know	No response
a. As a separate first year course				
b. As an elective course				
c. To be integrate within one subject in each year of the law degree				
d. To be integrate with another first year subject				
e. As a separate final year subject				

15. Would you prefer that legal research and ICT training be offered as-

a. Compulsory [ ]

b. Optional [ ]

c. Don't know [ ]

16. What is your preferred teaching method?

a. Demonstrations and hands-on [ ]

b. Lecturers [ ]

c. Small group tutorials [ ]

d. Web-based teaching materials and exercises [ ]

e. Don't know

17. What do you consider the best method for assessing legal research skills?

a. Library exercises [ ]

b. Essays requiring a structured research methodology [ ]

c. Short answer exams [ ]

d. Multiple- choice exams [ ]

e. Don't know [ ]

18. How would you prefer the training to be assessed?

a. Graded [ ]

b. Not graded [ ]

c. Don't know [ ]

19. Overall how would you rate your law library skills?

a. Excellent [ ]

b. Good [ ]

c. Average [ ]

d. Poor [ ]

e. Don't know [ ]

20. Overall how would you rate your information technology skills to the study of law at the University?

a. Excellent [ ]

b. Good [ ]

c. Average [ ]

d. Poor [ ]

21. How important in your opinion is legal research to the practice of law?

a. Very important [ ]

b. Moderately important [ ]

c. Not important [ ]

d. Don't know [ ]

22. Any other comments/suggestions

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